ML-145
Installation Manual

WARNING: For your safety the information in this manual must be followed to minimize the risk of fire or explosion or to prevent property damage, personal injury or death.

- Do not store or use gasoline or other flammable vapor and liquids in the vicinity of this or any other appliance.

- WHAT DO YOU DO IF YOU SMELL GAS

  * Do not try to light any appliance.
  * Do not touch any electrical switch; do not use any phone in your building.
  * Clear the room, building or area of all occupants.
  * Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  * If you cannot reach your gas supplier, call the fire department.

- Installation and service must be performed by a qualified installer, service agency or the gas supplier.

AVERTISSEMENT: Assurez-vous de bien suivre les instructions données dans cette notice pour réduire au minimum le risque d'incendie ou d'explosion ou pour éviter tout dommage matériel, toute blessure ou la mort.

- Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.

- QUE FAIRE SI VOUS SENTEZ UNE ODEUR DE GAZ:

  * Ne pas tenter d'allumer d'appareil.
  * Ne touchez à aucun interrupteur. Ne pas vous servir des téléphones se trouvant dans le bâtiment où vous vous trouvez..
  * Évacuez la pièce, le bâtiment ou la zone.
  * Appelez immédiatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
  * Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.

- L'installation et l'entretien doivent être assurés par un installateur ou un service d'entretien qualifié ou par le fournisseur de gaz.

American Dryer Corp.

For replacement parts, contact the reseller from which the dryer was purchased or

American Dryer Corporation
88 Currant Road
Fall River MA 02720-4781
Telephone: (508) 678-9000 / Fax: (508) 678-9447
E-mail: techsupport@amdry.com

012097MM/tf

ADC Part No. 112247

Retain This Manual In A Safe Place For Future Reference

American Dryer Corporation products embody advanced concepts in engineering, design, and safety. If this product is properly maintained, it will provide many years of safe, efficient, and trouble-free operation.

ONLY qualified technicians should service this equipment.

OBSERVE ALL SAFETY PRECAUTIONS displayed on the equipment or specified in the installation manual included with the dryer.

The following "**FOR YOUR SAFETY**" caution **must be** posted near the dryer in a prominent location.

FOR YOUR SAFETY	POUR VOTRE SÉCURITÉ
Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.	Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de yout autre appareil.

We have tried to make this manual as complete as possible and hope you will find it useful. **ADC** reserves the right to make changes from time to time, without notice or obligation, in prices, specifications, colors, and material, and to change or discontinue models.

Important

For your convenience, log the following information:

DATE OF PURCHASE _____ **MODEL NO.** **ML-145**

RESELLER'S NAME _____

Serial Number(s) _____

_____

_____

Replacement parts can be obtained from your reseller or the **ADC** factory. When ordering replacement parts from the factory, you can FAX your order to **ADC** at (508) 678-9447 or telephone your order directly to the **ADC** Parts Department at (508) 678-9000. Please specify the dryer **model number** and **serial number** in addition to the **description** and **part number**, so that your order is processed accurately and promptly.

The illustrations on the following pages may not depict your particular dryer exactly. The illustrations are a composite of the various dryer models. Be sure to check the descriptions of the parts thoroughly before ordering.

"IMPORTANT NOTE TO PURCHASER"

Information **must be** obtained from your local gas supplier on the instructions to be followed if the user smells gas. These instructions **must be** posted in a prominent location near the dryer.

IMPORTANT

YOU MUST DISCONNECT and LOCKOUT THE ELECTRIC SUPPLY and THE GAS SUPPLY or THE STEAM SUPPLY BEFORE ANY COVERS or GUARDS ARE REMOVED FROM THE MACHINE TO ALLOW ACCESS FOR CLEANING, ADJUSTING, INSTALLATION, or TESTING OF ANY EQUIPMENT per OSHA (Occupational Safety and Health Administration) **STANDARDS.**

"Caution: Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper operation."

«Attention: Lor des opérations d'entretien des commandes étiqueter tous fils avant de les déconnecter. Toute erreur de câblage peut étre une source de danger et de panne.»

CAUTION

DRYER(S) SHOULD NEVER BE LEFT UNATTENDED WHILE IN OPERATION.

WARNING

CHILDREN SHOULD NOT BE ALLOWED TO PLAY ON OR NEAR THE DRYER(S).

CHILDREN SHOULD BE SUPERVISED IF NEAR DRYER(S) IN OPERATION.

FOR YOUR SAFETY

DO NOT DRY MOP HEADS IN THE DRYER.

DO NOT USE DRYER IN THE PRESENCE OF DRY CLEANING FUMES.

WARNING

UNDER NO CIRCUMSTANCES should the door switch or the heat circuit devices ever be disabled.

WARNING

The dryer must never be operated with any of the back guards, outer tops, or service panels removed. PERSONAL INJURY or FIRE COULD RESULT.

WARNING

DRYER MUST NEVER BE OPERATED WITHOUT THE LINT FILTER/SCREEN IN PLACE...EVEN IF AN EXTERNAL LINT COLLECTION SYSTEM IS USED.

IMPORTANT

PLEASE OBSERVE ALL SAFETY PRECAUTIONS displayed on the equipment and/or specified in the installation manual included with the dryer.

The wiring diagram for the dryer is located in the front electrical control box area.

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SECTION I
IMPORTANT INFORMATION

A. RECEIVING and HANDLING

The dryer is shipped in a protective stretch wrap cover with protective cardboard corners and top cover (or optional box) as a means of preventing damage in transit. Upon delivery, the dryer and/or packaging, and wooden skid **should be** visually inspected for shipping damage. If any damage whatsoever is noticed, inspect further before delivering carrier leaves.

Dryers damaged in shipment:

1. **ALL** dryers **should be** inspected upon receipt and before they are signed for.

2. If there is suspected damage or actual damage, the trucker's receipt **should be** so noted.

3. If the dryer is damaged beyond repair, it **should be** refused. Those dryers which were not damaged in a damaged shipment **should be** accepted, but the number received and the number refused **must be** noted on the receipt.

4. If you determine that the dryer was damaged after the trucker has left your location, you should call the delivering carrier's freight terminal immediately and file a claim. The freight company considers this concealed damage. This type of freight claim is very difficult to get paid and becomes extremely difficult when more than a day or two passes after the freight was delivered. It is your responsibility to file freight claims. Dryer/parts damaged in transit **cannot** be claimed under warranty.

5. Freight claims are the responsibility of the consignee, and **ALL** claims **must be** filed at the receiving end. **ADC** assumes no responsibility for freight claims or damages.

6. If you need assistance in handling the situation, please contact the **ADC** Traffic Manager at (508) 678-9000.

IMPORTANT: The dryer ***must be*** transported and handled in an upright position at **ALL** times.

B. SAFETY PRECAUTIONS

WARNING: For your safety, the information in this manual ***must be*** followed to minimize the risk of fire or explosion or to prevent property damage, personal injury, or loss of life.

WARNING: **The dryer *must never be* operated with any of the back guards, outer tops, or service panels removed.**
PERSONAL INJURY or FIRE COULD RESULT.

1. **DO NOT** store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

2. Purchaser/user should consult the local gas supplier for proper instructions to be followed in the event the user smells gas. The instructions **should be** posted in a prominent location.

3. WHAT TO DO IF YOU SMELL GAS...

   a. **DO NOT** try to light any appliance.

   b. **DO NOT** touch any electrical switch.

   c. **DO NOT** use any phone in your building.

   d. Clear the room, building, or area of **ALL** occupants.

   e. Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.

   f. If you **cannot** reach your gas supplier, call the fire department.

4. Installation and service **must be** performed by a qualified installer, service agency, or gas supplier.

5. Dryer(s) **must be** exhausted to the outdoors.

6. Although **ADC** produces a very versatile machine, there are some articles that, due to fabric composition or cleaning method, **should not be** dried in it.

WARNING: Dry only water washed fabrics. ***DO NOT*** dry articles spotted or washed in dry cleaning solvents, a combustible detergent, or "**ALL** purpose" cleaner.
EXPLOSION COULD RESULT.

WARNING: ***DO NOT*** dry rags or articles coated or contaminated with gasoline, kerosene, oil, paint, or wax.
EXPLOSION COULD RESULT.

WARNING: ***DO NOT*** dry mop heads. Contamination by wax or flammable solvents will create a fire hazard.

WARNING: ***DO NOT*** use heat for drying articles that contain plastic, foam, sponge rubber, or similarly textured rubberlike materials. Drying in a heated basket (tumbler) may damage plastics or rubber and also may be a fire hazard.

7. A program **should be** established for the inspection and cleaning of lint in the burner area, exhaust duct work, and area around the back of the dryer. The frequency of inspection and cleaning can best be determined from experience at each location.

WARNING: The collection of lint in the burner area and exhaust duct work can create a potential fire hazard.

8. For personal safety, the dryer **must be** electrically grounded in accordance with local codes and/or the National Electrical Code ANSI/NFPA NO. 70-LATEST EDITION, or in Canada, the Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION.

NOTE: Failure to do so will VOID THE WARRANTY.

9. **UNDER NO CIRCUMSTANCES** should the dryer door switches, lint drawer switch, or heat safety circuit, ever be disabled.

WARNING: **PERSONAL INJURY or FIRE COULD RESULT**.

10. This dryer is not to be used in the presence of dry cleaning solvents or fumes.

11. Remove articles from the dryer as soon as the drying cycle has been completed.

WARNING: Articles left in the dryer after the drying and cooling cycles have been completed can create a fire hazard.

12. **READ and FOLLOW ALL CAUTION and DIRECTION LABELS ATTACHED TO THE DRYER.**

WARNING: **YOU MUST DISCONNECT and LOCKOUT THE ELECTRIC SUPPLY and THE GAS SUPPLY or THE STEAM SUPPLY BEFORE ANY COVERS or GUARDS ARE REMOVED FROM THE MACHINE TO ALLOW ACCESS FOR CLEANING, ADJUSTING, INSTALLATION, or TESTING OF ANY EQUIPMENT per OSHA** (Occupational Safety and Health Administration) **STANDARDS**.

13. For safety, proper operation, and optimum performance, the dryer **must not be** operated with a load less than sixty-six percent (66%) - 96 pounds (43.54 kg) of its rated capacity.

SECTION II

SPECIFICATIONS/COMPONENT IDENTIFICATION

A. SPECIFICATIONS (GAS and STEAM)

Maximum Capacity (Dry Weight)		145 lbs.	**65.8 kg**
Basket (Tumbler) Diameter		51-1/2"	**130.8 cm**
Basket (Tumbler) Depth		35-1/2"	**90.2 cm**
Basket Motor		1 HP	**0.746 kw**
Blower Motor		5 HP	**3.73 kw**
Door Opening (Diameter)		31-3/8"	**79.7 cm**
Basket (Tumbler) Volume		42.8 cu. ft.	**1.2 cu. m.**
Dryers Per 20'/40' Container		3/7	
Dryers Per 45'/48' Truck		8/8	
Gas	Voltage Available	208-460v 3ø 3, 4w 50/60 Hz	
	Approx. Weight (Uncrated)	1,690 lbs.	**767 kg**
	Approx. Weight (Crated)	1,845 lbs.	**837 kg**
	Heat Input	395,000 btu/hr	**99,540 kcal/hr**
	Airflow	2,700 cfm	**76.45 cmm**
	Inlet Pipe Size	1-1/4" F.P.T.	
	Compressed Air Connection	1/8" F.P.T.	
	Compressed Air Requirement	2.5 cfm @ 80 PSI	**0.071 cmm @ 552 kPa**
Steam	Voltage Available	208-460v 3ø 3, 4w 50/60 Hz	
	Approx. Weight (Uncrated)	1,820 lbs.	**826 kg**
	Approx. Weight (Crated)	1,975 lbs.	**896 kg**
	Heat Input	16 Bhp	
	Steam Consumption	520 lbs. hr	**236 kg/hr**
	Airflow	3,500 cfm	**96.10 cmm**
	Inlet Pipe Size	1-1/2" M.P.T.	
	Return Size	1-1/2" M.P.T.	
	Compressed Air Connection	1/8" F.P.T.	
	Compressed Air Requirement	6 cfh @ 80 PSI	**0.17 cmh @ 552 kPa**

Shaded areas are stated in metric equivalents

IMPORTANT: Steam dryers ***must be*** provided with a clean, dry, regulated 80 PSI +/- 10 PSI (552 kPa +/- 69 kPa) air supply.

NOTE: **ADC** reserves the right to make changes in specifications at any time without notice or obligation.

SPECIFICATIONS

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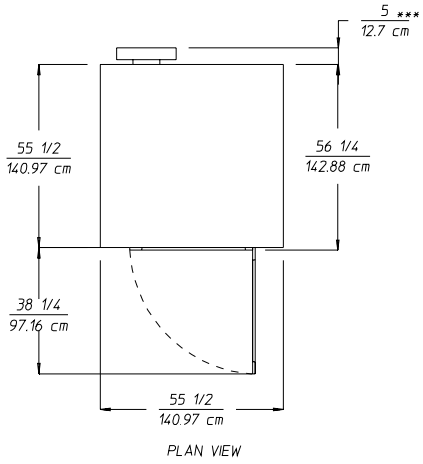
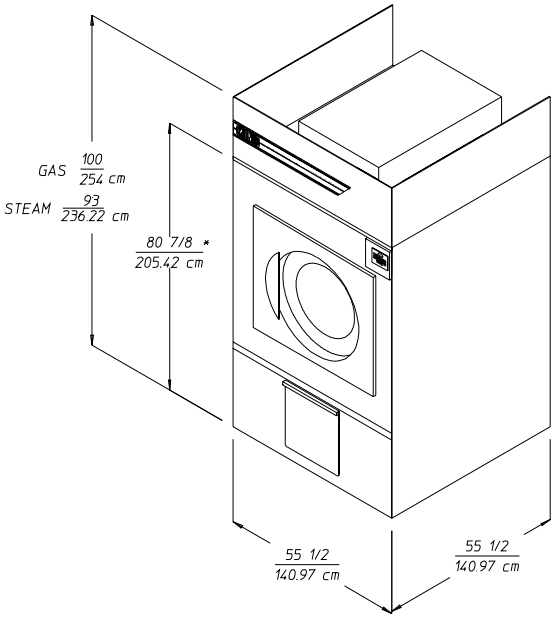


PLAN VIEW



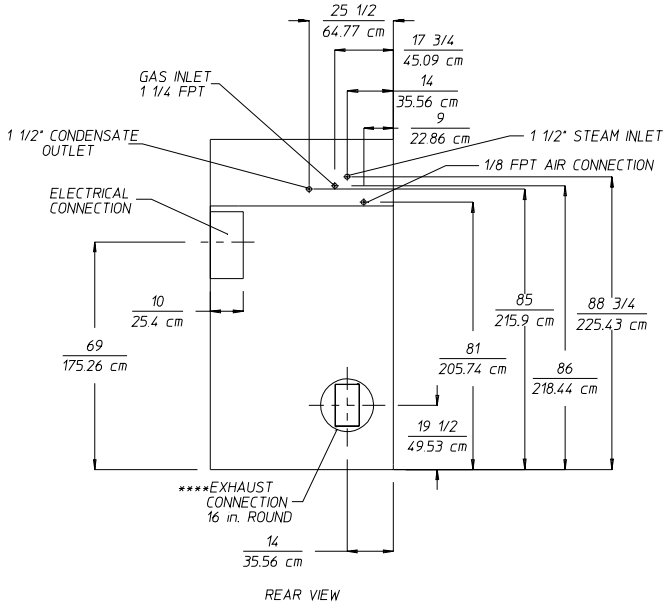
* TOP SECTION CAN BE REMOVED FOR EASY INSTALLATION.

** ADD 8 INCHES (20.32 cm) FOR STEAM OPERATING HEIGHT.

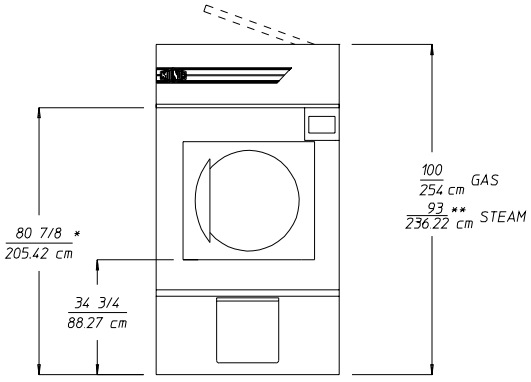
*** TRANSITION DUCT CAN BE REMOVED FOR EASY INSTALLATION.

**** DUCT WORK SIZE VARIES WITH INSTALLATION CONDITIONS.

SPEC202



REAR VIEW

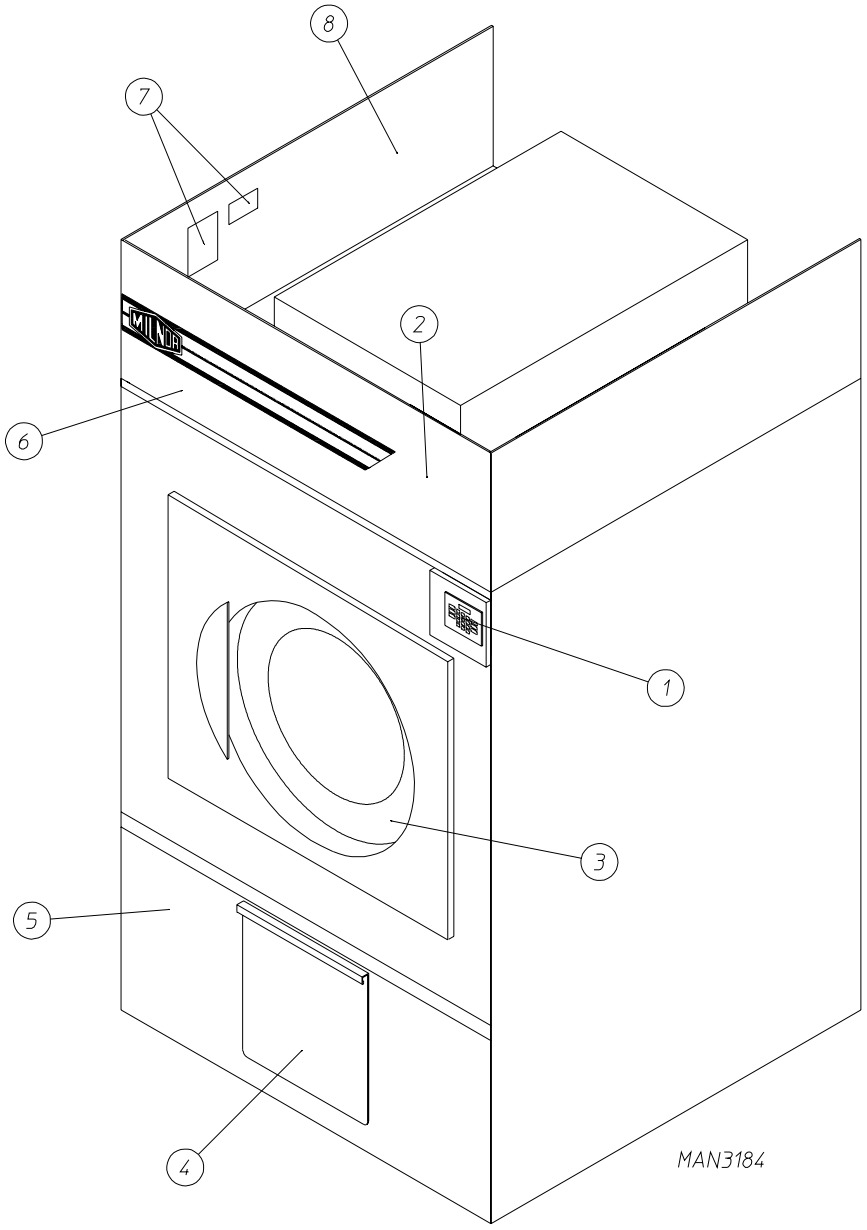


FRONT VIEW

NOTE: **ADC** reserves the right to make changes in specifications at any time without notice or obligation.

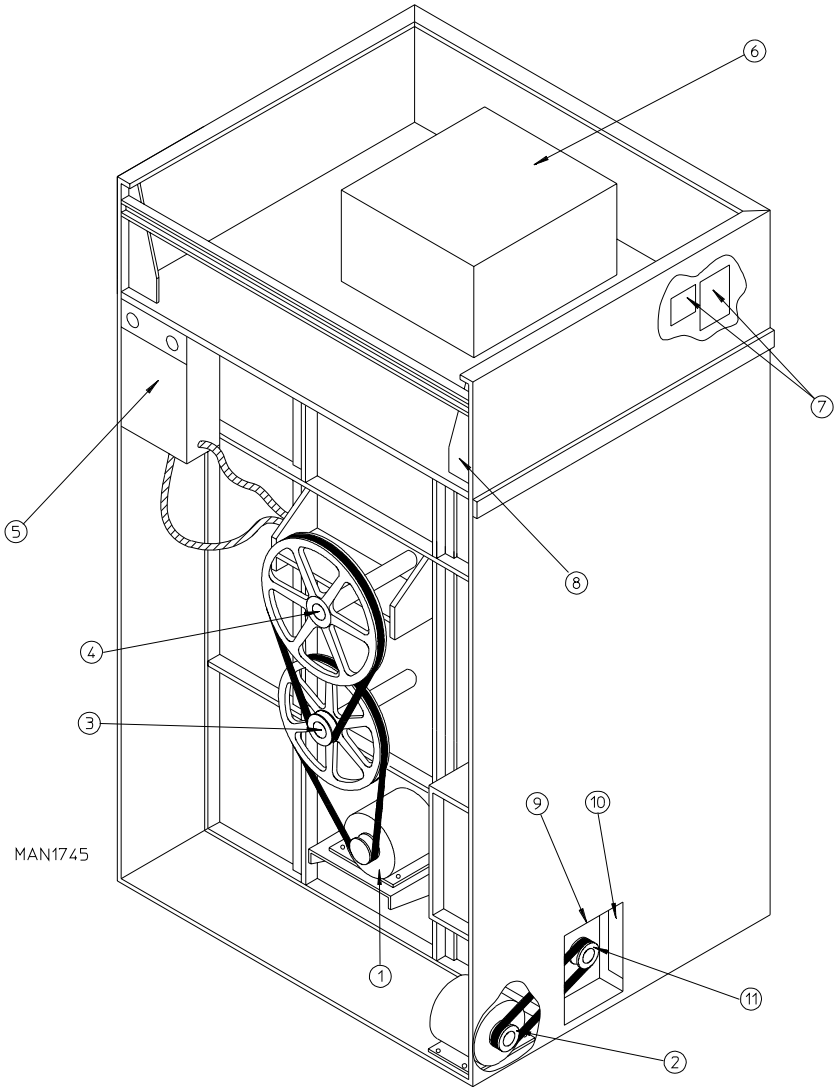
B. COMPONENT IDENTIFICATION

1. Dryer Front View



Illus. No.	Description
1	Microprocessor Control/Keyboard (touch pad) Panel Assembly (controls)
2	Control (top access) Door Assembly
3	Main Door Assembly
4	Lint Drawer
5	Lint Door Assembly
6	Wire Diagram (located behind control door)
7	Data Label and Installation Label
8	Top Console (module) Assembly

2. Dryer Rear View



REAR VIEW

Illus. No.	Description
1	Basket (tumbler) Drive Motor Assembly
2	Blower (impellor/fan) Motor Mount Assembly
3	Idler Bearing Mount Assembly
4	Basket (tumbler) Bearing Mount Assembly
5*	Electric Service Relay Box
6	Heating Unit
7	Data Label and Installation Label
8	1/8” Compressed Air Supply Inlet (behind gusset)
9	Side Access Opening
10	Front Access Opening
11	Impellor (fan/blower) Assembly

* Electric service connections are made in this box.

SECTION III

INSTALLATION PROCEDURES

Installation **should be** performed by competent technicians in accordance with local and state codes. In the absence of these codes, the installation **must conform** to applicable American National Standards: ANSI Z223.1-LATEST EDITION (National Fuel Gas Code) or ANSI/NFPA NO. 70-LATEST EDITION (National Electrical Code) or in Canada, the installation **must conform** to applicable Canadian Standards: CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (liquid propane [L.P.] Gas) or LATEST EDITION (for General Installation and Gas Plumbing) or Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION (for Electrical Connections).

A. LOCATION REQUIREMENTS

Before installing the dryer, be sure the location conforms to local codes and ordinances. In the absence of such codes or ordinances the location **must conform** with the National Fuel Gas Code ANSI.Z223.1-LATEST EDITION, or in CANADA, the Canadian Installation Codes CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (L.P. Gas) or LATEST EDITION.

1. The dryer **must be** installed on a sound level floor capable of supporting its weight. Carpeting **must be** removed from the floor area that the dryer is to rest on.

IMPORTANT: "The dryer ***must be*** installed on noncombustible floors only."

2. The dryer **must not be** installed or stored in an area where it will be exposed to water and/or weather.

3. The dryer is for use in noncombustible locations.

4. Clearance provisions **must be** made from combustible construction as noted in this manual (refer to **Dryer Enclosure Requirements** in **Section C**).

5. Provisions **must be** made for adequate clearances for servicing and for operation as noted in this manual (refer to **Dryer Enclosure Requirements** in **Section C**).

6. Provisions for adequate air supply **must be** provided as noted in this manual (refer to **Fresh Air Supply Requirements** in **Section D**).

7. Dryer **must be** exhausted to the outdoors as noted in this manual (refer to **Exhaust Requirements** in **Section E**).

8. Dryer **must be** located in an area where correct exhaust venting can be achieved as noted in this manual (refer to **Exhaust Requirements** in **Section E**).

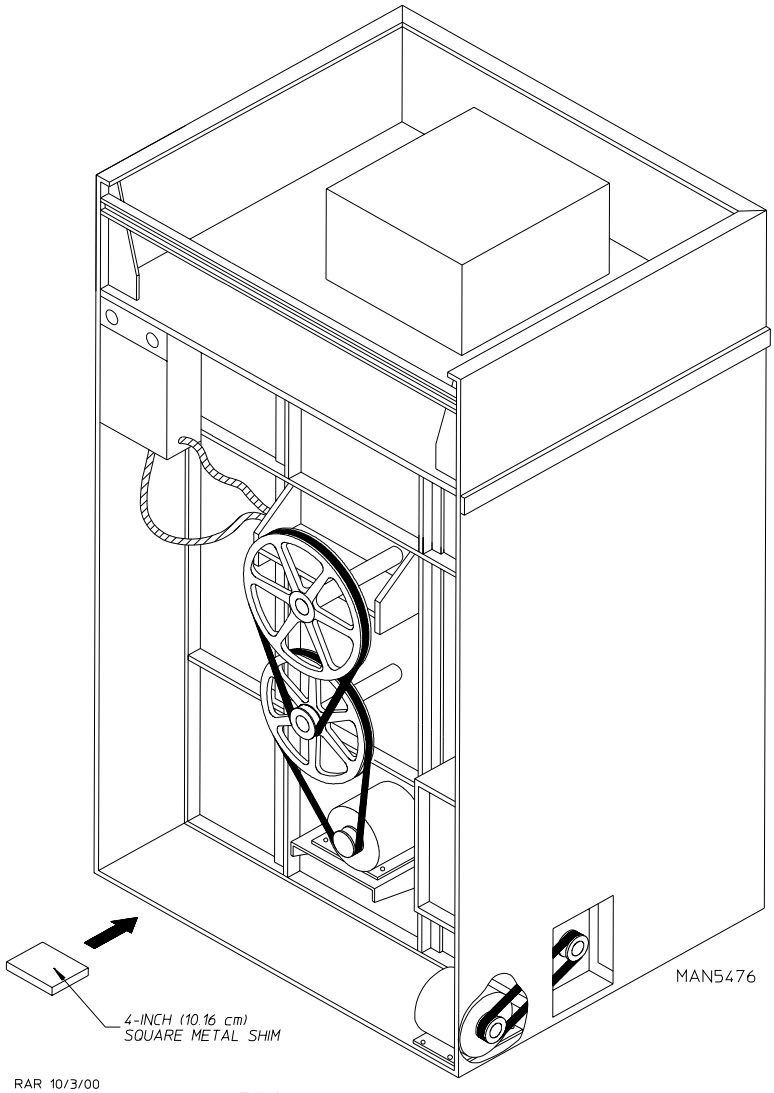
IMPORTANT: Dryer ***should be*** located where a minimum amount of exhaust duct **will be** necessary.

B. UNPACKING/SETTING UP

Remove protective shipping material (i.e., plastic wrap, and/or optional shipping box) from dryer.

IMPORTANT: Dryer ***must be*** transported and handled in an upright position at **ALL** times.

The dryer can be moved to its final location while still attached to the skid or with the skid removed. To unskid the dryer, locate and remove the four (4) lag bolts securing the base of the dryer to the wooden skid. Two (2) are at the rear base, and two (2) are located in the bottom of the lint chamber. To remove the two (2) lag bolts located in the lint chamber area, remove the lint drawer and the three (3) Phillips head screws securing the lint door in place.



REAR VIEW

1. Leveling Dryer

   a. To level the dryer, place 4-inch (10.16 cm) metal shims (refer to the **illustration above**) or other suitablematerial under the base pads. It is suggested that the dryer be tilted slightly to the rear.

2. The V-belts are disconnected from the basket (tumbler) drive motor for shipping. Reconnect the V-belts before starting the dryer.

a. To Reconnect V-belts

1) Remove hardware holding the back (belt) guard and remove guard from the dryer.

2) Lay one (1) belt into motor sheave (pulley) groove and wind belt into corresponding groove of idler pulley by rotating the idler pulley by hand. Rotate the idler pulley an extra turn or two (2) to insure that the belt is tracking properly in the motor sheave (pulley) and idler pulley grooves without twisting.

3. If more headroom is needed when moving dryer into position, the top console (module) may be removed.

a. To Remove Top Console (Module)

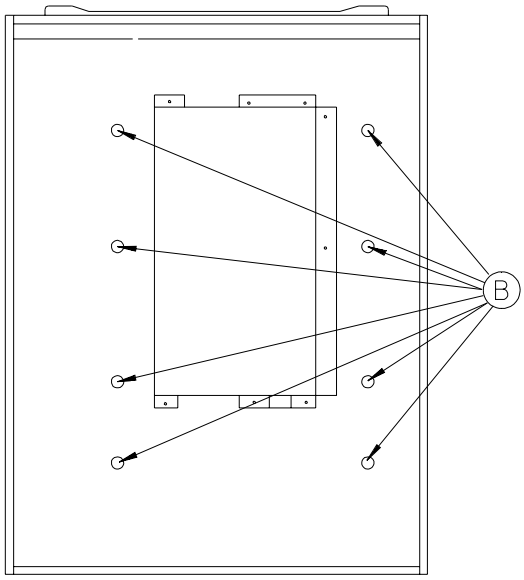
1) Disconnect the ground wire (A) at the rear upper left hand corner of dryer.

2) Remove the eight (8) sets of nuts and washers (B) holding the console (module) to the base.

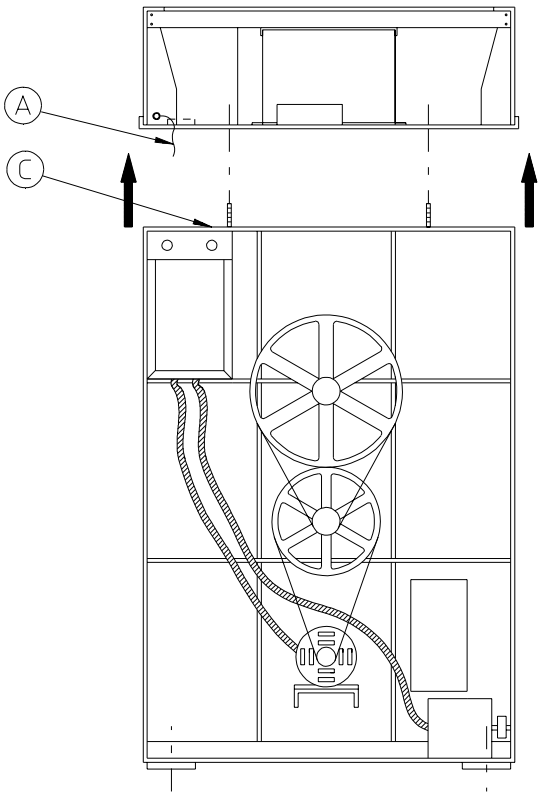
3) Disconnect white plug connector (C) located on top of the rear electric service/relay box (provides power to the heat circuit).

4) Disconnect air connection from the 3-way micro valve.

5) Lift the console (module) off of the dryer base.



TOP VIEW



REAR VIEW

MAN3230

IMPORTANT: The dryer ***must be*** transported and handled in an upright position at **ALL** times.

C. DRYER ENCLOSURE REQUIREMENTS

Even though a 12-inch (30.48 cm) clearance is acceptable, it is recommended that the rear of the dryer be positioned approximately 2 feet (0.61 meters) - 24-inches (60.96 cm) - from the nearest obstruction (i.e., wall) for ease of installation, maintenance, and service. Bulkheads and partitions **should be** made from noncombustible materials. The clearance between the bulkhead header and the dryer **must be** a minimum of 4-inches (10.16 cm) and **must not** extend more than 4-inches (10.16 cm) to the rear of the dryer front. A 2-inch (5.08 cm) clearance is required between the bulkhead facing and the top of the dryer.

NOTE: Bulkhead facing ***should not be*** installed until after dryer is in place. Ceiling area ***must be*** located a minimum of 6-inches (15.24 cm) above the dryer's top console (module) for gas models and 12-inches (30.48 cm) for steam models.

Even though a minimum of 6-inches (15.24 cm) above the dryer's top console (module) is acceptable for gas models and 12-inches (30.48 cm) above the dryer's top console (module) is acceptable for steam models, a clearance of 12-inches (30.48 cm) or more (for gas models) and 18-inches (45.72 cm) or more (for steam models) is suggested for ease of installation and service.

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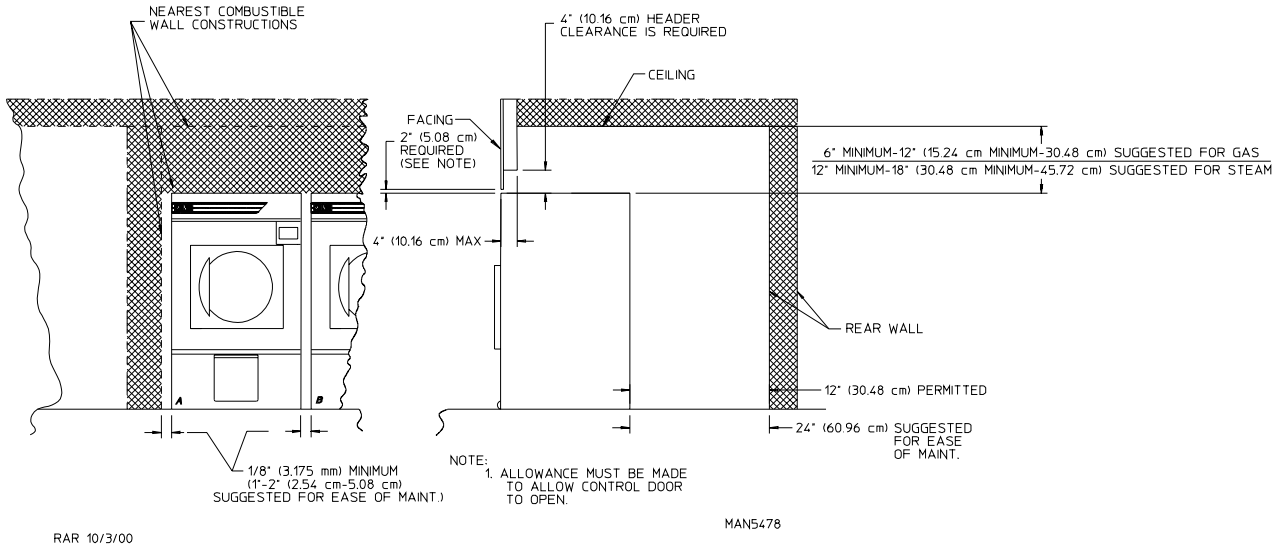

NEAREST COMBUSTIBLE WALL CONSTRUCTIONS
4" (10.16 cm) HEADER CLEARANCE IS REQUIRED
CEILING
FACING
2" (5.08 cm) REQUIRED (SEE NOTE)
6" MINIMUM-12" (15.24 cm MINIMUM-30.48 cm) SUGGESTED FOR GAS
12" MINIMUM-18" (30.48 cm MINIMUM-45.72 cm) SUGGESTED FOR STEAM
4" (10.16 cm) MAX
REAR WALL
12" (30.48 cm) PERMITTED
24" (60.96 cm) SUGGESTED FOR EASE OF MAINT.
1/8" (3.175 mm) MINIMUM (1"-2" (2.54 cm-5.08 cm) SUGGESTED FOR EASE OF MAINT.)
NOTE:
1. ALLOWANCE MUST BE MADE TO ALLOW CONTROL DOOR TO OPEN.
MAN5478
RAR 10/3/00
INSTALLATION: DRYER CLEARANCE TO ADJACENT WALL STRUCTURES.

NOTE: When fire sprinkler systems are located above the dryers, a minimum of 12-inches (30.48 cm) above the dryer's top console (module) is required. Dryers may be positioned sidewall to sidewall; however, 1 or 2-inches (2.54 or 5.08 cm) is suggested between dryers (or wall) for ease of installation and maintenance. Allowances ***must be*** made for the opening and closing of the control and lint door.

D. FRESH AIR SUPPLY REQUIREMENTS

When the dryer is operating, it draws in room air, heats it, passes this air through the basket (tumbler), and exhausts it out of the building. Therefore, the room air **must be** continually replenished from the outdoors. If the make-up air is inadequate, drying time and drying efficiency will be adversely affected. Ignition problems and sail switch "fluttering" problems may result, as well as premature motor failure from overheating.

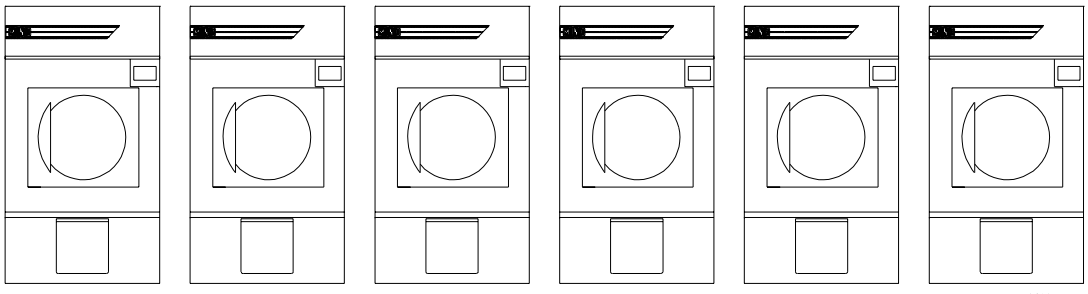
Air supply (make-up air) **must be** given careful consideration to assure proper performance of each dryer. An unrestricted source of air is necessary for each dryer. An airflow of 2,700 cfm (cubic feet per minute) - 76.45 cmm (cubic meters per minute) **must be** supplied to each gas dryer and 3,500 cfm (99.10 cmm) **must be** supplied to each steam dryer. As a general rule, an unrestricted air entrance from the outdoors (atmosphere) of a minimum of 4 square feet (0.37 square meters) is required for each gas dryer and a minimum of 6 square feet (0.55 square meters) for each steam dryer.

To compensate for the use of registers or louvers used over the openings, this make-up air **must be** increased by approximately thirty-three percent (33%). Make-up air openings **should not be** located in an area directly near where exhaust vents exit the building.

It is not necessary to have a separate make-up air opening for each dryer. Common make-up air openings are acceptable. However, they **must be** set up in such a manner that the make-up air is distributed equally to **ALL** the dryers.

EXAMPLE: For a bank of six (6) dryers, two (2) unrestricted openings measuring 3 feet by 4 feet (0.91 meters x 1.21 meters) - 24 square feet (2.22 square meters) - is acceptable.

Allowances **must be** made for remote or constricting passageways or where dryers are located at excessive altitudes or predominantly low pressure areas.



TYPICAL INSTALLATION SHOWING MAKE-UP AIR OPENINGS

IMPORTANT:	Make-up air ***must be*** provided from a source free of dry cleaning solvent fumes. Make-up air that is contaminated by dry cleaning solvent fumes will result in irreparable damage to the motors and other dryer components.

NOTE: Component failure due to dry cleaning solvent fumes will VOID THE WARRANTY.

E. EXHAUST REQUIREMENTS

1. General Exhaust Duct Work Information

Exhaust duct work **should be** designed and installed by a qualified professional. Improperly sized duct work will create excessive back pressure which results in slow drying, increased use of energy, overheating of the dryer, and shutdown of the burner by the airflow (sail) switches, burner hi-limits, or basket (tumbler) hi-heat thermostats.

CAUTION: DRYER ***MUST BE*** EXHAUSTED TO THE OUTDOORS.

CAUTION: **IMPROPERLY SIZED or INSTALLED EXHAUST DUCT WORK CAN CREATE A POTENTIAL FIRE HAZARD**.

NOTE: When a dryer is exhausted separately, **it is recommended** that a back draft damper be installed.

NOTE: When dryers are exhausted into a multiple (common) exhaust line, each dryer ***must be*** supplied with a back draft damper.

The duct work **should be** laid out in such a way that the duct work travels as directly as possible to the outdoors with as few turns as possible. Single or independent dryer venting is recommended.

When single dryer venting is used, for horizontal ducting the minimum duct size is 16-inches (40.64 cm) in diameter, the duct run **should not have** more than one (1) elbow (including outside protection), and **must not exceed** 40 feet (12.19 meters) in total length. With single dryer vertical ducting, the minimum duct size is 18-inches (45.72 cm) in diameter, and the duct run **should not have** more than three (3) elbows (including outside protection), and **must not exceed** 20 feet (6.1 meters) in total length.

In the case of multiple (common) dryer venting, the distance from the last dryer to the outside exhaust duct outlet **must not exceed** 20 feet (6.1 meters), and have no more than one (1) elbow (including outside protection).

The shape of the duct work is not critical so long as the minimum cross-sectional area is provided. It is suggested that the use of 90° turns be avoided; use 30° and/or 45° bends/angles instead. The radius of the elbows **should preferably be** 1-1/2 times the diameter of the duct. Including basket (tumbler)/dryer elbow connections or elbows used for outside protection from the weather, the limits noted above **must be** observed. If more elbows are used, the cross-sectional area of the duct work **must be** increased in proportion to the number of elbows used.

IMPORTANT: When the duct work approaches the maximum limits noted in this manual, a professional heating, venting, and air-conditioning (HVAC) firm ***must be*** consulted for proper venting information.

ALL duct work **should be** smooth inside with no projections from sheet metal screws or other obstructions which will collect lint. When adding ducts, the duct to be added should overlap the duct to which it is to be connected. **ALL** duct work joints **must be** taped to prevent moisture and lint from escaping into the building. Inspection doors **should be** installed at strategic points in the exhaust duct work for periodic inspection and cleaning of lint from the duct work.

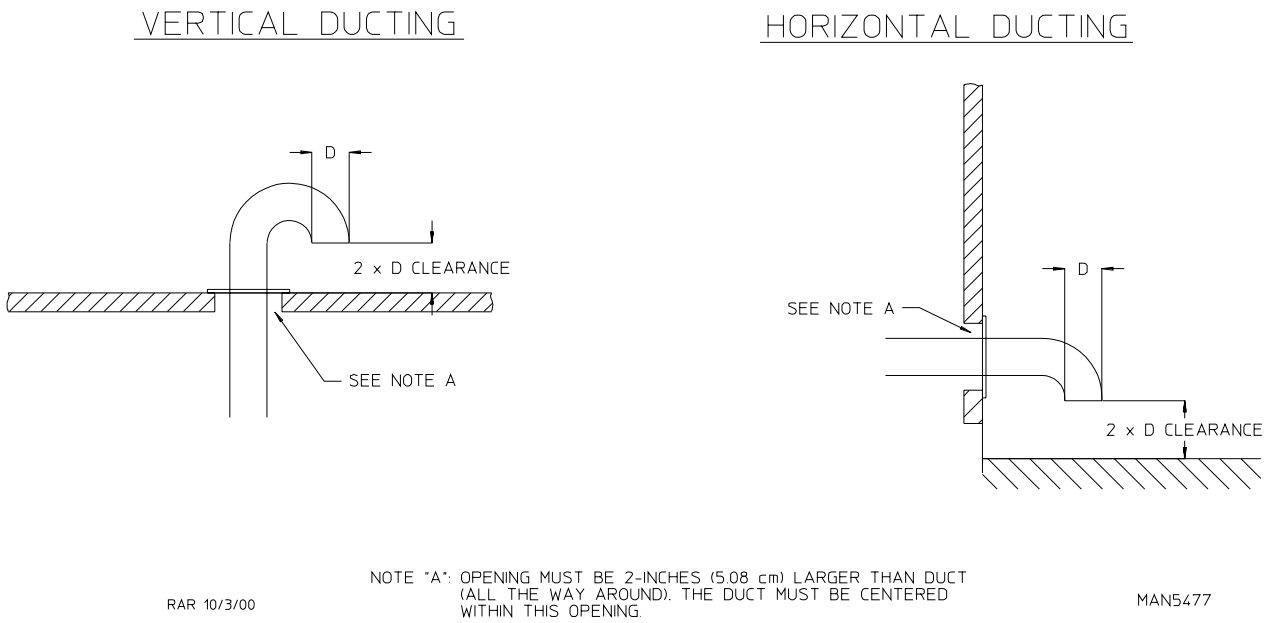
IMPORTANT: Exhaust back pressure measured by a manometer in the exhaust duct ***must not exceed*** 0.3 inches of water column (W.C.) - 0.74 mb.

IMPORTANT: When the exhaust duct work passes through a wall, ceiling , or roof made of combustible materials, the opening ***must be*** 2-inches (5.08 cm) larger than the duct (**ALL** the way around). The duct ***must be*** centered within this opening.

a. Outside Duct Work Protection

1) To protect the outside end of horizontal duct work from the weather, a 90° elbow bent downward **should be** installed where the exhaust exits the building. If the exhaust duct work travels vertically up through the roof, it **should be** protected from the weather by using a 180° turn to point the opening downward. In either case, allow at least twice the diameter of the duct between the duct opening and the nearest obstruction.

IMPORTANT: ***DO NOT*** use screens or caps on the outside opening of the exhaust duct work.


VERTICAL DUCTING
D
2 x D CLEARANCE
SEE NOTE A
HORIZONTAL DUCTING
SEE NOTE A
D
2 x D CLEARANCE
NOTE "A": OPENING MUST BE 2-INCHES (5.08 cm) LARGER THAN DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.
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2. Single Dryer Venting

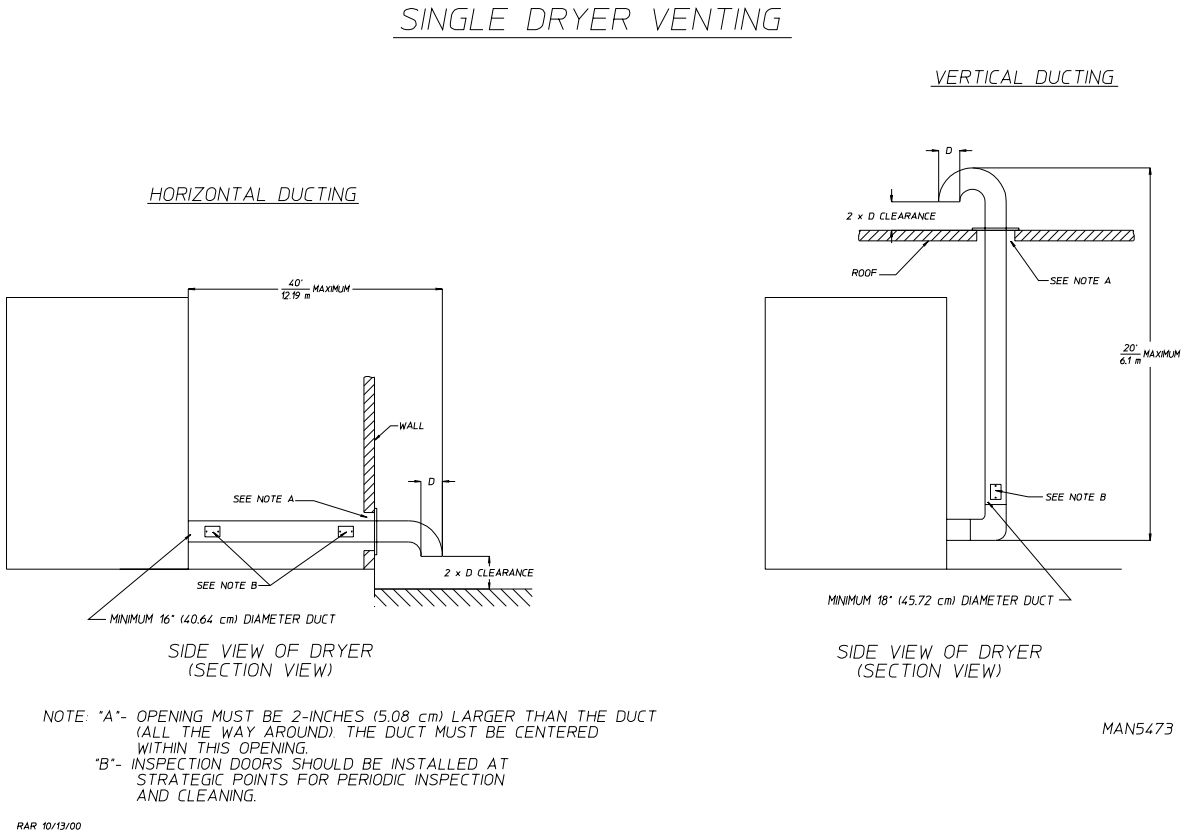
Where possible, it is suggested to provide a separate exhaust duct for each dryer. The exhaust duct **should be** laid out in such a way that the duct work travels as directly as possible to the outdoors with as few turns as possible. It is suggested that the use of 90° turns in ducting be avoided; use 30° and/or 45° angles instead. The shape of the exhaust duct work is not critical so long as the minimum cross section area is provided.

IMPORTANT: Minimum duct size for a dryer is 16-inches (40.64 cm) for a round duct or 14-1/2" x 14-1/2" (36.83 cm x 36.83 cm) for a square duct. **THE DUCT SIZE *MUST NOT BE* REDUCED ANYWHERE DOWNSTREAM OF THE DRYER**.

IMPORTANT: Exhaust back pressure measured by a manometer at each basket (tumbler) exhaust duct area ***must not exceed*** 0.3 inches of water column (0.74 mb).

a. Ducting (Horizontal and Vertical)

1) For single dryer horizontal ducting the minimum duct size is 16-inches (40.64 cm) in diameter, the duct run **should not have** more than one (1) elbow (including outside protection), and **must not exceed** 40 feet (12.19 meters) in total length. With single dryer vertical ducting the minimum duct size is 18-inches (45.72 cm) in diameter, the duct run **should not have** more than three (3) elbows (including outside protection), and **must not exceed** 20 feet (6.1 meters) in total length.


SINGLE DRYER VENTING
VERTICAL DUCTING
HORIZONTAL DUCTING
40' 12.19 m MAXIMUM
WALL
D
SEE NOTE A
SEE NOTE B
2 x D CLEARANCE
MINIMUM 16" (40.64 cm) DIAMETER DUCT
SIDE VIEW OF DRYER (SECTION VIEW)
D
2 x D CLEARANCE
ROOF
SEE NOTE A
20' 6.1 m MAXIMUM
SEE NOTE B
MINIMUM 18" (45.72 cm) DIAMETER DUCT
SIDE VIEW OF DRYER (SECTION VIEW)
NOTE: "A"- OPENING MUST BE 2-INCHES (5.08 cm) LARGER THAN THE DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.
"B"- INSPECTION DOORS SHOULD BE INSTALLED AT STRATEGIC POINTS FOR PERIODIC INSPECTION AND CLEANING.
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IMPORTANT:	When the duct work approaches the maximum limits as noted in this manual, a professional heating, venting, and air-conditioning (HVAC) firm ***must be*** consulted for proper venting information.

ALL duct work **should be** smooth inside with no projections from sheet metal screws or other obstructions which will collect lint. When adding ducts, the duct to be added should overlap the duct to which it is to be connected. **ALL** duct work joints **must be** taped to prevent moisture and lint from escaping into the building. Inspection doors **should be** installed at strategic points in the exhaust duct work for periodic inspection and cleaning of lint from the duct work.

IMPORTANT:	When the exhaust duct work passes through a wall, ceiling , or roof made of combustible materials, the opening ***must be*** 2-inches (5.08 cm) larger than the duct (**ALL** the way around). The duct ***must be*** centered within this opening.

b. Outside Duct Work Protection

1) To protect the outside end of horizontal duct work from the weather, a 90° elbow bent downward **should be** installed where the exhaust exits the building. If the exhaust duct work travels vertically up through the roof, it **should be** protected from the weather by using a 180° turn to point the opening downward. In either case, allow at least twice the diameter of the duct between the duct opening and nearest obstruction.

IMPORTANT: ***DO NOT*** use screens, louvers, or caps on the outside opening of the exhaust duct work.

3. Multiple Dryer (Common) Venting

If it is not feasible to provide separate exhaust ducts for each dryer, ducts from individual dryers may be channeled into a "common main duct." The individual ducts should enter the bottom or side of the main duct at an angle not more than 45° in the direction of airflow and **should be** spaced at least 55-3/4 inches (141.61 cm) apart. The main duct **should be** tapered, with the diameter increasing before each individual 16-inch (40.64 cm) duct is added.

a. Multiple Dryer Venting

1) In case of multiple (common) dryer venting, the distance from the last dryer to the outside exhaust outlet **must not exceed** 20 feet (6.1 meters), and not have more than one (1) elbow (including outside protection).

2) The minimum size of the duct from each dryer into the common duct is 16-inches (40.64 cm), and **must not have** more than one (1) elbow. The total duct run from the dryer to the common duct **must not exceed** 15 feet (4.57 meters) in length.

IMPORTANT: The ML-145 **is not** provided with a back draft damper. When exhausted into a multiple (common) exhaust line, a back draft damper ***must be*** installed at each dryer duct.

IMPORTANT: No more than three (3) dryers ***should be*** connected to one (1) main common duct.

The main duct may be any shape or cross-sectional area, so long as the minimum cross section area is provided. The **illustrations** on **page 20** show the minimum cross-sectional area for multiple dryer round or square venting. These figures **must be** increased 10 square inches (64.51 square centimeters) when rectangular main ducting is used, and the ratio of duct width to depth **should not be** greater than 3-1/2 to 1. These figures **must be** increased in proportion if the main duct run to the last dryer to where it exhausts to the outdoors exceeds the maximum limits noted.

IMPORTANT: For extended duct work runs, the cross section area of the duct work can only be increased to an extent. Maximum proportional duct work runs **cannot** exceed 20 feet (6.1 meters) more than the original limitations of 20 feet (6.1 meters) with two (2) elbows. When the duct work approaches the maximum limits as noted in this manual, a professional heating, venting, and air-conditioning (HVAC) firm ***should be*** consulted for proper venting information.

IMPORTANT: Exhaust back pressure measured by a manometer at each dryer exhaust duct area ***must not exceed*** 0.3 inches of water column (W.C.) - 0.74 mb.

The main duct may be any shape or cross-sectional area, so long as the minimum cross section area is provided. The **illustrations** on **page 20** show the minimum cross-sectional area for multiple dryer round or square venting. These figures **must be** increased 10 square inches (64.52 square centimeters) when rectangular main ducting is used, and the ratio of duct width to depth **should not be** greater than 3-1/2 to 1. These figures **must be** increased in proportion if the main duct run to the last dryer to where it exhausts to the outdoors is unusually long (over 20 feet [6.1 meters]) or has numerous elbows (more than two [2]) in it. In calculating duct work size, the cross section area of a square or rectangular duct **must be** increased twenty percent (20%) for each additional 20 feet (6.1 meters). The diameter of a round exhaust **must be** increased ten percent (10%) for each additional 20 feet (6.1 meters). Each 90° elbow is equivalent to an additional 30 feet (9.14 meters), and each 45° elbow is equivalent to an additional 15 feet (4.57 cm).

IMPORTANT: For extended duct work runs, the cross section area of the duct work can only be increased to an extent. Maximum proportional duct work runs **cannot** exceed 20 feet (6.1 meters) more than the original limitations of 20 feet (6.1 meters) with two (2) elbows. When the duct work approaches the maximum limits as noted in this manual, a professional heating venting air conditioning (HVAC) firm ***should be*** consulted for proper venting information.

IMPORTANT: Exhaust back pressure measured by a manometer at each dryer exhaust duct area ***must not exceed*** 0.3 inches of water column (0.74 mb).

The duct **should be** smooth inside with no projections from sheet metal screws or other obstructions which will collect lint. When adding ducts, the duct to be added should overlap the duct to which it is to be connected. **ALL** duct work joints **must be** taped to prevent moisture and lint from escaping into the building. Inspection doors **should be** installed at strategic points in the exhaust duct work for periodic inspection and cleaning of lint from the duct work.

NOTE: When the exhaust duct work passes through a wall, ceiling, or roof made of combustible materials, the opening ***must be*** 2-inches (5.08 cm) larger than the duct (**ALL** the way around). The duct ***must be*** centered within this opening.

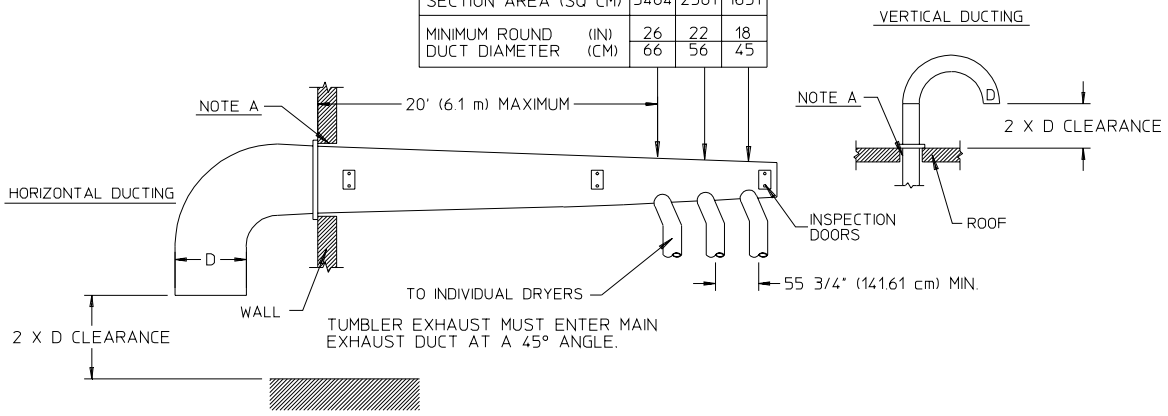
b. Outside Duct Work Protection

1) To protect the outside end of horizontal duct work from the weather, a 90° elbow bent downward **should be** installed where the exhaust exits the building. If the exhaust duct work travels vertically up through the roof, it **should be** protected from the weather by using a 180° turn to point the opening downward. In either case, allow at least twice the diameter of the duct between the duct opening and nearest obstruction.

IMPORTANT: ***DO NOT*** use screens, louvers, or caps on the outside opening of the exhaust duct work.

MULTIPLE DRYER VENTING (GAS MODELS)
WITH 18" (45.72 cm) DIAMETER (2700 CFM [76.45 CMM]) EXHAUST CONNECTIONS AT COMMON DUCT

NO. OF DRYERS		3	2	1
MINIMUM CROSS SECTION AREA	(SQ IN)	540	400	256
	(SQ CM)	3484	2581	1651
MINIMUM ROUND DUCT DIAMETER	(IN)	26	22	18
	(CM)	66	56	45

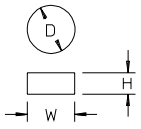


IMPORTANT: NO MORE THAN 3 DRYERS CAN BE CONNECTED TO ONE COMMON DUCT (VENT).

FORMULAS TO CALCULATE DUCTING CROSS SECTIONAL AREA

CROSS SECTIONAL AREA OF A ROUND DUCT = .785 (19.939mm) x D^2 WHERE D = DIAMETER OF THE DUCT.

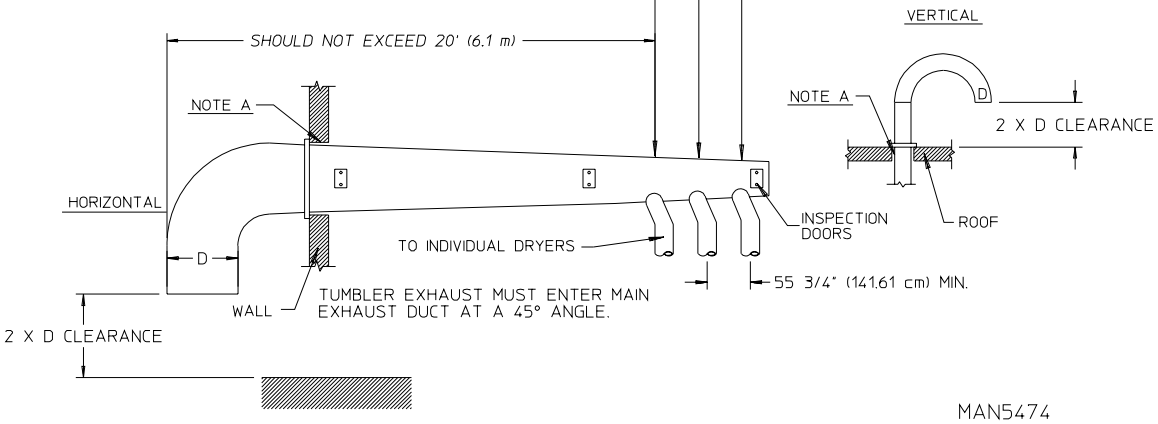
CROSS SECTIONAL AREA OF A RECTANGULAR DUCT = W x H WHERE W = WIDTH AND H = HEIGHT.



NOTE A: OPENING MUST BE 2-INCHES (5.08 cm) LARGER THAN THE DUCT (ALL THE WAY AROUND). THE DUCT MUST BE CENTERED WITHIN THIS OPENING.

MULTIPLE DRYER VENTING (STEAM MODELS)
WITH 20" (50.8 cm) DIAMETER (3500 CFM [96.10 CMM]) EXHAUST CONNECTIONS AT COMMON DUCT

NO. OF DRYERS		3	2	1
MINIMUM CROSS SECTION AREA	(SQ IN)	650	464	324
	(SQ CM)	4194	2994	2090
MINIMUM ROUND DUCT DIAMETER	(IN)	28	24	20
	(CM)	71	61	50



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IMPORTANT: NO MORE THAN 3 DRYERS CAN BE CONNECTED TO ONE COMMON DUCT (VENT).

F. ELECTRICAL INFORMATION

1. Electrical Requirements

It is your responsibility to have **ALL** electrical connections made by a properly licensed and competent electrician to assure that the electrical installation is adequate and conforms with local and state regulations or codes. In the absence of such codes, **ALL** electrical connections, material, and workmanship **must conform** to the applicable requirements of the National Electrical Code ANSI NFPA NO. 70-LATEST EDITION, or in CANADA, the Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION.

IMPORTANT: Failure to comply with these codes or ordinances, and/or the requirements stipulated in this manual can result in personal injury or component failure.

NOTE: Component failure due to improper installation will VOID THE WARRANTY.

Each dryer **should be** connected to an independently protected branch circuit. The dryer **must be** connected with copper wire only. ***DO NOT use aluminum wire which could cause a fire hazard***. The copper conductor wire/cable **must be** of proper ampacity and insulation in accordance with electric codes for making **ALL** service connections.

NOTE: The use of aluminum wire will VOID THE WARRANTY.

NOTE: Wiring diagrams are affixed to the inside at the top front control door and the rear upper back guard/panel.

2. Electrical Service Specifications

MLG-145 (Gas)
MLS-145 (Steam)

ELECTRIC SERVICE SPECIFICATIONS (PER DRYER)

IMPORTANT: 208 VAC and 230/240 VAC **ARE NOT THE SAME. When ordering, *specify exact voltage*.**

NOTES: A. Fuse ratings are dual element, time delay, current limiting, class RK1 or RK5 **ONLY**.
B. Circuit breakers are thermal magnetic (industrial) type **ONLY**. For others, calculate/verify correct breaker size according to appliance amp draw rating and type of breaker used.
C. Circuit breakers for 3-phase (3ø) dryers **must be** 3-pole type.

SERVICE VOLTAGE	PHASE	WIRE SERVICE	APPROX. AMP DRAW		MINIMUM WIRE SIZE*	FUSING	CIRCUIT BREAKER
			60 Hz	50 Hz		Dual Element Time Delay	
208	3ø	3	17	20	12	35	35
240	3ø	3	17	---	12	35	35
380	3ø	3/4	---	11	14	20	20
416	3ø	3/4	---	10	14	15	20
460	3ø	3/4	9	---	14	15	15
480	3ø	3/4	9	---	14	15	15

* AWG Stranded Type Wire...for individual lengths less than 100 feet (31 meters).

IMPORTANT: The dryer ***must be*** connected to the electric supply shown on the data label that is affixed to the left inside front side panel (refer to the **illustration** on **Section VII** at the upper right hand corner). In the case of 208 VAC or 230/240 VAC, the supply voltage ***must match*** the electric service specifications of the data label **exactly**.

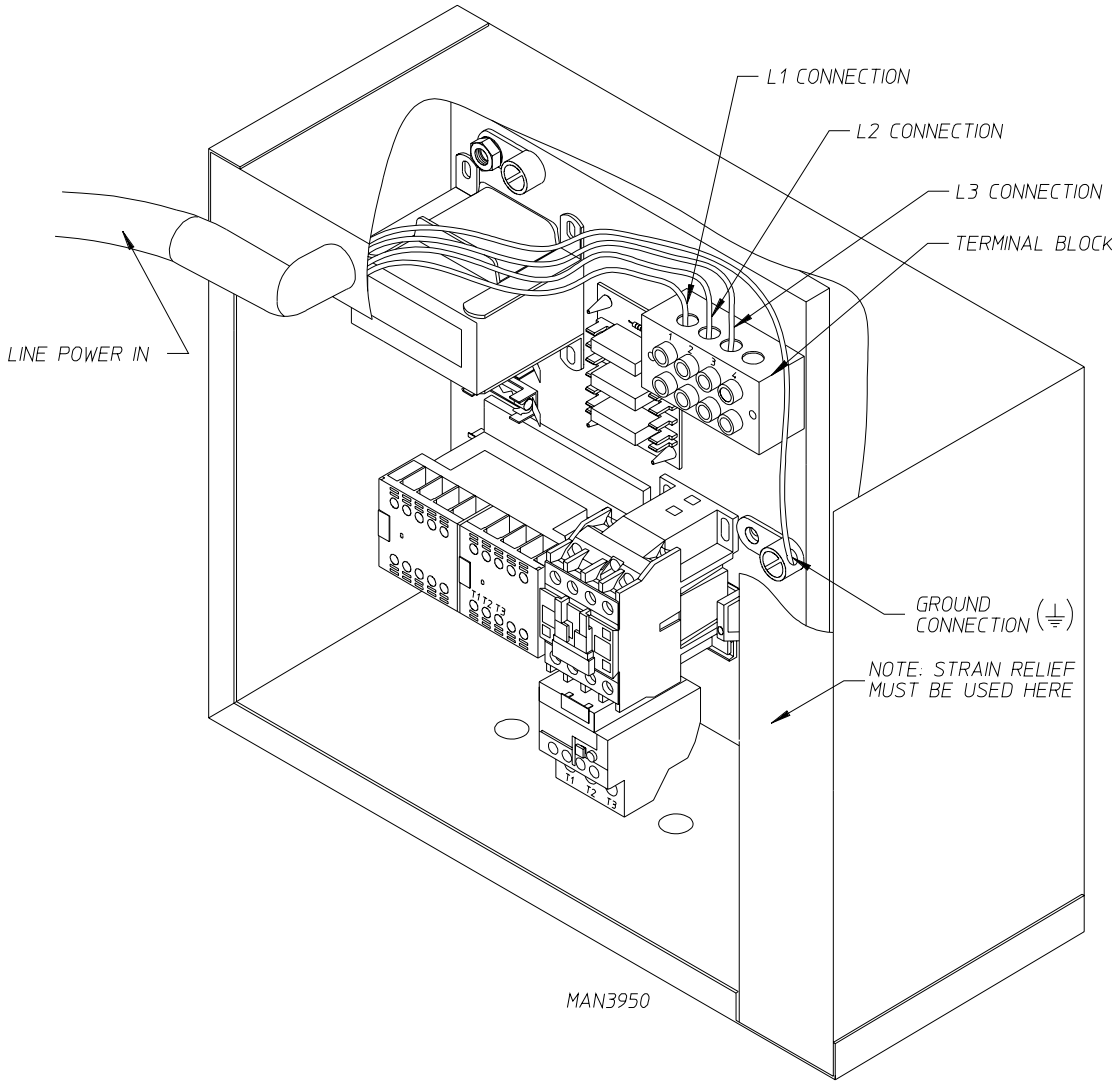
WARNING: **208 VAC and 230/240 VAC ARE NOT THE SAME.** Any damage done to dryer components due to improper voltage connections will automatically VOID THE WARRANTY.

NOTE: **ADC** reserves the right to make changes in specifications at any time without notice or obligation.

3. Electrical Connections

NOTE: A wire diagram is located in the front electrical control box for connection data.

The only electrical input connections to the dryer are the 3-phase (3ø) power leads (L1, L2, and L3), GROUND, and in the case of 4 wire service, the NEUTRAL. These electrical connections are made at the terminal block located in the service/relay box at the rear, upper left hand corner of the dryer. To gain access into this service box, the service cover **must be** removed.



The "LINE POWER" and the "GROUND" connections to the dryer **must be** made through the knock out hole at the top of the electric service/relay box. A strain relief **must be** used where the line power/ground wires go into the electric service/relay box.

Providing local codes permit, power connections to the dryer can be made by the use of a flexible underwriters laboratory listed cord/pigtail (wire size **must conform** to rating of the dryer), or the dryer can be hard wired directly to the service breaker. In **ALL** cases, a strain relief **must be** used where the wire(s) enter the dryer's electrical service/relay box.

NOTE: A CIRCUIT SERVICING EACH DRYER *MUST BE* PROVIDED.

4. Grounding

Grounding (earth) connections **must be** provided and installed in accordance with state and local codes. In the absence of these codes, grounding **must conform** to applicable requirements of the National Electrical Code ANSI/NFPA NO. 70-LATEST EDITION, or in CANADA, the Canadian Electrical Codes Parts 1 & 2 CSA C22.1-1990 or LATEST EDITION. The ground connection may be to a proven earth ground at the location service panel.

NOTE: A grounding connection (terminal lug) is provided in the dryer's electrical service/relay box at the rear.

For added personal safety, when possible, it is suggested that a separate ground wire (sized per local codes) be connected from the ground connection of the dryer to a grounded cold water pipe. ***DO NOT ground to a gas pipe or hot water pipe***. The grounded cold water pipe **must have** metal to metal connection **ALL** the way to the electrical ground. If there are any nonmetallic interruptions, such as, a meter, pump, plastic, rubber, or other insulating connectors, they **must be** jumped out with no. 4 copper wire and securely clamped to bare metal at both ends.

IMPORTANT: For personal safety and proper operation, the dryer ***must be*** grounded. For proper operation of the microprocessor controller (computer), an earth (zero) ground **is required**.

NOTE: Grounding via metallic electrical conduit (pipe) **is not recommended**.

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G. GAS INFORMATION

It is your responsibility to have **ALL** plumbing connections made by a qualified professional to assure that the gas plumbing installation is adequate and conforms with local and state regulations or codes. In the absence of such codes, **ALL** plumbing connections, materials, and workmanship **must conform** to the applicable requirements of the National Fuel Gas Code ANSI Z223.1-LATEST EDITION, or in CANADA, the Canadian Installation Codes CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (liquid propane [L.P.] Gas) or LATEST EDITION.

IMPORTANT: Failure to comply with these codes or ordinances, and/or the requirements stipulated in this manual, can result in personal injury and improper operation of the dryer.

The dryer and its individual shutoff valves **must be** disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.5 kPa). The dryer **must be** isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure test of the gas supply system at test pressures equal to or less than 1/2 psig (3.5 kPa).

IMPORTANT: Failure to isolate or disconnect dryer from supply as noted can cause irreparable damage to the gas valve which will VOID THE WARRANTY.

WARNING: **FIRE or EXPLOSION COULD RESULT.**

1. Gas Supply

   The gas dryer installation **must meet** the American National Standard...National Fuel Gas Code ANSI Z223.1-LATEST EDITION, or in CANADA, the Canadian Installation Codes CAN/CGA-B149.1 M91 (Natural Gas) or CAN/CGA-B149.2-M91 (L.P. Gas) or LATEST EDITION, as well as local codes and ordinances and **must be** done by a qualified professional.

NOTE: Undersized gas piping will result in ignition problems, slow drying, increased use of energy, and can create a safety hazard.

The dryer **must be** connected to the type of heat/gas indicated on the data label affixed to the left inside front side panel wall, (refer to the **illustration** in **Section VII**). If this information does not agree with the type of gas available, ***DO NOT OPERATE THE DRYER.*** Contact the reseller who sold the dryer or the **ADC** factory.

IMPORTANT: Any burner changes or conversions ***must be*** made by a qualified professional.

The input ratings shown on the dryer's data label are for elevations up to 2,000 feet (610 meters), unless elevation requirements of over 2,000 feet (610 meters) were specified at the time the dryer order was placed with the factory. The adjustment or conversion of dryers in the field for elevations over 2,000 feet (610 meters) are made by changing each burner orifice. If this conversion is necessary, contact the reseller who sold the dryer or contact the **ADC** factory.

2. Technical Data

a. Gas Specifications

	TYPE OF GAS			
	Natural		Liquid Propane (L.P.)	
Manifold Pressure*	3.5 - inches W.C.	**8.7 mb**	10.5 inches W.C.	**26.1 mb**
Inline Pressure	6.0 - 12.0 inches W.C.	**14.92 - 29.9 mb**	10.5 inches W.C.	**26.1 mb**

Shaded areas are stated in metric equivalents

* Measured at the gas valve pressure tap when the gas valve is on.

b. Gas Connections:

Inlet connection ---------- 1-1/4" F.P.T.
Inlet supply size ---------- 1-1/4" F.P.T. (minimum)
Btu/hr input (natural gas) ---------- 395,000 (99,540 kcal/hr)
Btu/hr input (liquid propane [L.P.] gas) ---------- 345,000 (86,940 kcal/hr)

1) Natural Gas

Regulation is controlled by the dryer's gas valve's internal regulator. Incoming supply pressure **must be** consistent between a minimum of 6.0 inches (14.92 mb) and a maximum of 12.0 inches water column (W.C.) - 29.9 mb - pressure.

2) L.P. Gas

Dryers made for use with L.P. gas have the gas valve's internal pressure regulator blocked open so that the gas pressure **must be** regulated upstream of the dryer. The pressure measured at each gas valve pressure tap **must be** a consistent 10.5 inches water column (26.1 mb). ***There is no regulator or regulation provided in a L.P. dryer.*** The water column pressure **must be** regulated at the source (L.P. tank) or an external regulator **must be** added to each dryer.

			TYPE OF GAS						LIQUID PROPANE (L.P.) CONVERSION KIT PART NUMBER
MODEL NUMBER	BTU PER HOUR RATING	**KCAL/HR RATING**	NATURAL			LIQUID PROPANE (L.P.)			
			QTY.	D.M.S.*	PART NUMBER	QTY.	D.M.S.*	PART NUMBER	
MLG-145	395,000	**99,540**	3	#2	140839	--	--	------	881499
MLG-145	345,000	**86,940**	--	--	------	3	#31	140818	881499

Shaded areas are stated in metric equivalents

* Drill Material Size (D.M.S.) equivalents are as follows:
Natural Gas ..... #2 = 0.2210" (5.6134 mm)
L.P. Gas ..... #31 = 0.1200" (3.048 mm)

3. Piping/Connections

ALL components/materials **must conform** to National Gas Code Specifications, or in CANADA, the Canadian Installation Codes (for General Installation and Plumbing). It is important that gas pressure regulators meet applicable pressure requirements and that gas meters be rated for the total amount of **ALL** the appliance BTUs being supplied.

The dryer is provided with a 1-1/4" N.P.T. inlet pipe connection extending out the back area of the burner box. The minimum pipe size (supply line) to the dryer is 1-1/4" N.P.T. For ease in servicing, the gas supply line of each dryer **must have** its own shutoff valve.

The size of the main gas supply line (header) will vary depending on the distance this line travels from the gas meter or, in the case of liquid propane (L.P.) gas, the supply tank, other gas-operated appliances on the same line, etc. Specific information regarding supply line size **should be** determined by the gas supplier.

NOTE: Undersized gas supply piping can create a low or inconsistent pressure, which will result in erratic operation of the burner ignition system.

Consistent gas pressure is essential at **ALL** gas connections. It is recommended that a 1-1/4" pipe gas loop be installed in the supply line servicing a bank of dryers. An in-line pressure regulator **must be** installed in the gas supply line (header) if the (natural) gas pressure exceeds 12.0 inches of water column (W.C.) - 29.9 mb - pressure.

NOTE: A water column (W.C.) test pressure of 3.5 inches (8.7 mb) for natural gas and 10.5 inches (26.1 mb) for L.P. dryers **is required** at the gas valve pressure tap of each dryer for proper and safe operation.

An 1/8" N.P.T. plugged tap, accessible for a test gauge connection, **must be** installed in the main gas supply line immediately upstream of each dryer.

IMPORTANT: Pipe joint compounds that resist the action of natural gas and L.P. gas ***must be*** used.

IMPORTANT: Test **ALL** connections for leaks by brushing on a soapy water solution (liquid detergent works well).

WARNING: **NEVER TEST FOR LEAKS WITH A FLAME!!!**

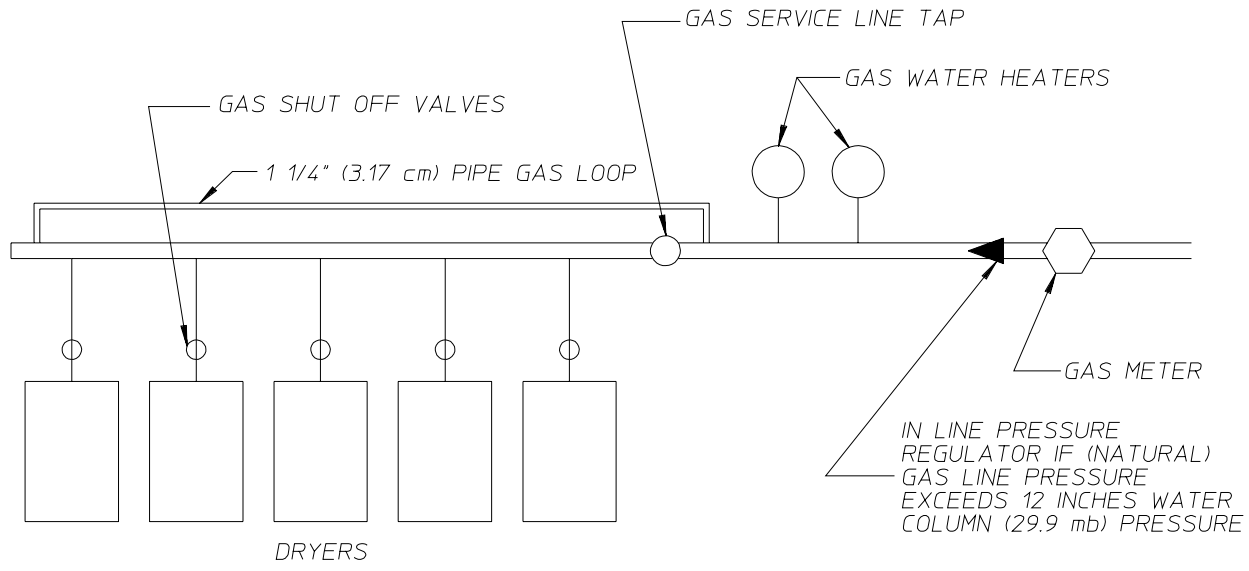
ALL components/materials **must conform** to National Gas Code Specifications ANSI Z223.1-LATEST EDITION, or in Canada, the Canadian Installation Codes CAN/CGA-B149.1-M91 (Natural Gas) or CAN/CGA-B149.2-M91 (L.P. Gas) or LATEST EDITION.

It is important that gas pressure regulators meet applicable pressure requirements and that gas meters be rated for the total amount of **ALL** the appliance BTUs being supplied.

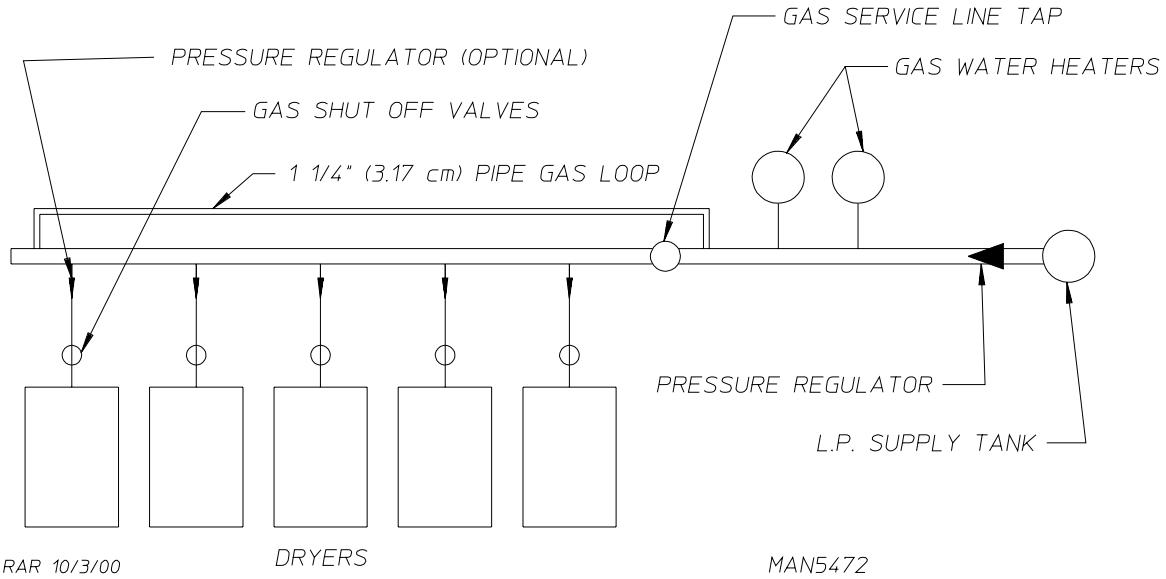
IMPORTANT: The dryer and its individual shutoff valve ***must be*** disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.5 kPa).

NOTE: The dryer ***must be*** isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure test of the gas supply system at test pressures equal to or less than 1/2 psig (3.5 kPa).

TYPICAL NATURAL GAS INSTALLATION


GAS SERVICE LINE TAP
GAS WATER HEATERS
GAS SHUT OFF VALVES
1 1/4" (3.17 cm) PIPE GAS LOOP
GAS METER
IN LINE PRESSURE REGULATOR IF (NATURAL) GAS LINE PRESSURE EXCEEDS 12 INCHES WATER COLUMN (29.9 mb) PRESSURE
DRYERS

TYPICAL L.P. GAS INSTALLATION



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H. STEAM INFORMATION

It is your responsibility to have **ALL** plumbing connections made by a qualified professional to assure that the gas plumbing installation is adequate and conforms with local and state regulations or codes.

IMPORTANT: Failure to comply with the requirements stipulated in this manual can result in component failure which will VOID THE WARRANTY.

NOTE: The MLS-145 is manufactured with a pneumatic (piston) damper system which requires an external supply of clean, dry, regulated air 80 PSI +/- 10 PSI (552 kPa +/- 69 kPa). Refer to **Steam Damper Air System Connections**, **Section H, item 4**.

1. Steam Coil PH Level

   The normal PH level for copper type steam coils **must be** maintained between a value of 8.5 to 9.5. For steel type steam coils the PH level **must be** maintained between a value of 9.5 to 10.5. These limits are set to limit the acid attack of the steam coils.

IMPORTANT: Coil failure due to improper PH level will VOID THE WARRANTY.

2. Steam Requirements - High Pressure

   Inlet -------- 1-1/2" supply line connection -- qty. one (1) at top manifold.
   Return ----- 1-1/2" return line connection --- qty. one (1) at bottom manifold.

OPERATING STEAM PRESSURE		
MAXIMUM	125 psig	**862 kPa**
MINIMUM	100 psig	**689 kPa**
HEAT INPUT (NORMAL LOAD)	16 Bhp	
CONSUMPTION (APPROXIMATE)	520 lbs/hr	**235 kg/hr**

Shaded areas are stated in metric equivalents

3. Installation Instructions

   To insure an adequate supply of steam is provided, be sure that the steam lines and steam return lines are sized and laid out as stipulated in this manual. Inadequate steam lines and steam return lines or improper steam plumbing will result in poor performance and can cause component failure. Clean, dry steam **must be** provided to the dryer.

IMPORTANT: Steam coil failure due to water hammer by wet steam will VOID THE WARRANTY.

   a. The pressure of the condensate in the steam supply will cause water hammer and subsequent heat exchanger (steam coil) failure. The steam supply connection into the main supply line **must be** made with a minimum 12-inch (30.48 cm) riser. This will prevent any condensate from draining towards the dryer.

   b. The steam supply piping to the dryer **must include** a 12-inch (30.48 cm) rise along with a drip trap and check valve. This will prevent any condensate from entering the steam coil.

c. Flexible hoses or couplings **must be** used. The dryer vibrates slightly when it runs and this will cause the steam coil connections to crack if they are hard piped to the supply and return mains.

d. Shutoff valves for each dryer **should be** installed in the supply line, return line, and drip trap return line. This will allow the dryer to be isolated from the supply main and the return main if the dryer needs maintenance work.

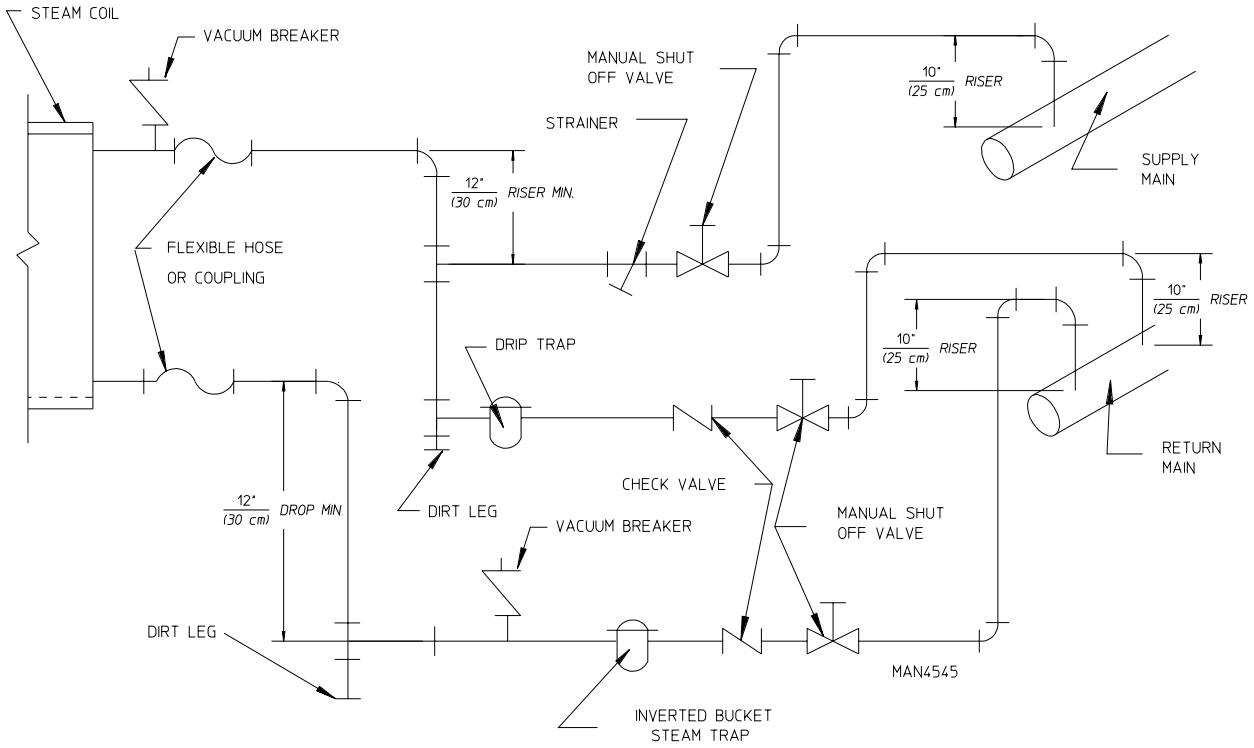
e. Install an inverted bucket steam trap and check valve at least 12-inches (30.48 cm) below the steam coil as close to the coil as possible.

   1) An inverted bucket steam trap with capacity of 1,400 pounds (635.03 kg) of condensate per hour @ 125 PSI (862 kPa) **<u>is</u> <u>required</u>** for each unit.

f. A 3/4-inch (19.05 mm) vacuum breaker **should be** installed for each unit in the piping. This will prevent the condensing steam from causing a vacuum inside the coil and possibly damaging the coil.

g. The supply line and the return line **should be** insulated. This will save energy and provide for the safety of the operator and maintenance personnel.

h. Water pockets in the supply line, caused by low points, will provide wet steam to the coil possibly causing steam coil damage. **<u>ALL</u>** horizontal runs of steam supply piping **should be** pitched 1/4-inch (6.35 mm) for every 1 foot (0.31 meters) back towards the steam supply header causing the condensate in the line to drain to the header. Install a bypass trap in any low point to eliminate wet steam.



4. Steam Damper Air System Connections

The MLS-145 is manufactured with a pneumatic (piston) damper system which requires an external supply of compressed air. The air connection is made to the steam damper solenoid valve which is located at the rear of the top console.

a. Air Requirements

COMPRESSED AIR SUPPLY	AIR PRESSURE	
Normal	80 PSI	**552 kPa**
Minimum Supply	70 PSI	**483 kPa**
Maximum Supply	90 PSI	**621 kPa**

Shaded areas are stated in metric equivalents

b. Air Connection

Air connection to system --- 1/8-inch F.P.T.

c. No air regulator or filtration is provided with the dryer. External regulation/filtration of 80 PSI (552 kPa) **must be** provided. It is suggested that a regulator/filter gauge arrangement be added to the compressed air line just before the dryer connection. This is necessary to insure that correct and clean air pressure is achieved.

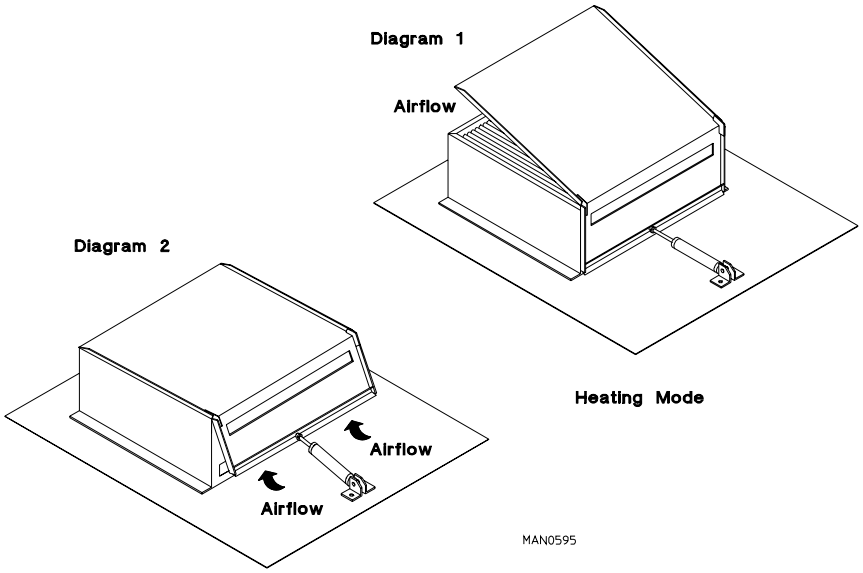
5. Steam Damper System Operation

The MLS-145 steam damper, as shown in the **top illustration** on **page 32**, allows the coil to stay constantly charged eliminating repeated expansion and contraction. When the damper is opened, the air immediately passes through the already hot coil, providing instant heat to start the drying process. When the damper is closed, ambient air is drawn directly into the basket (tumbler), allowing a rapid cool down.

Diagram 1 shows the damper in the heating (open) mode, allowing heat into the basket (tumbler).

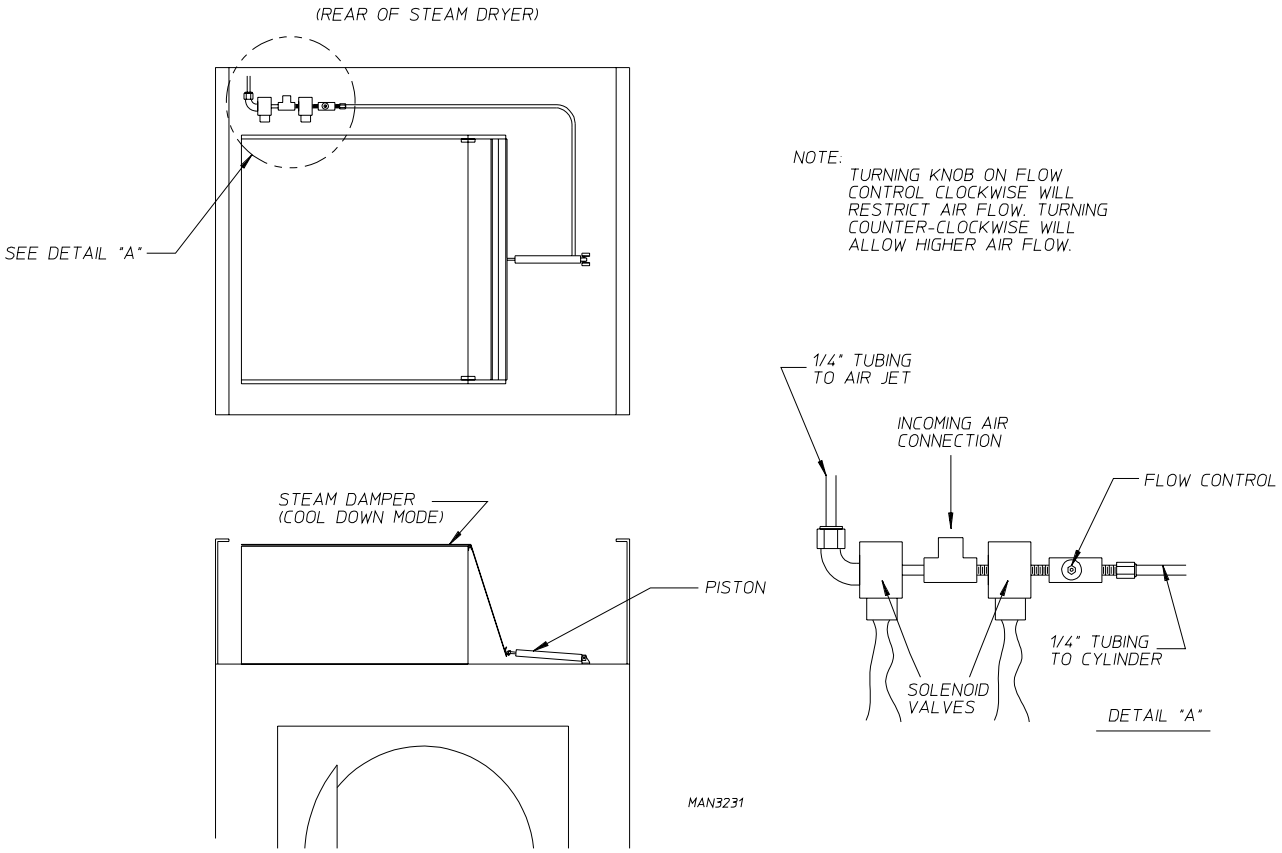
Diagram 2 shows the damper in the cool down (closed) mode, pulling ambient air directly into the basket (tumbler) without passing through the coils.

NOTE: With the dryer off or with no air supply, the steam damper is in cool down mode as shown in **Diagram 2** on **page 32**.



6. Steam Damper Air Piston (Flow Control) Operation Adjustment

Although the steam damper operation was tested and adjusted prior to shipping at 80 PSI (552 kPa), steam damper operation **must be** checked before the dryer is put into operation. Refer to the **illustration above** for correct steam damper operation. If steam damper adjustment is necessary, locate the flow control valve and make the necessary adjustments as noted below.



I. PREPARATION FOR OPERATION/START-UP

The following items **should be** checked before attempting to operate the dryer:

1. Read **ALL** "**CAUTION**," "**WARNING**," and "**DIRECTION**" labels attached to the dryer.

2. Check incoming supply voltage to be sure that it is the same as indicated on the dryer's data label located in the front top console area as shown in the **illustration** on **page 8**. In the case of 208 VAC or 230/240 VAC **THE SUPPLY VOLTAGE *MUST MATCH* THE ELECTRIC SERVICE EXACTLY**.

3. GAS MODELS - check to assure that the dryer is connected to the type of heat/gas indicated on the dryer's data label.

4. GAS MODELS - the sail switch damper assembly was installed and pre-adjusted at the factory prior to shipping. However, each sail switch adjustment **must be** checked to assure that this important safety control is functioning.

NOTE: Check the microprocessor controller (computer) programming to ensure it is configured for a gas type dryer. Review system parameters in Location 2.

5. Be sure that **ALL** gas shutoff valves are in the open position.

NOTE: The drive belts are disconnected at the factory prior to shipment.

6. GAS MODELS - be sure that **ALL** electric box covers have been replaced.

7. Check **ALL** service doors to assure that they are closed and secured in place.

8. Be sure the lint drawer is securely in place.

NOTE: **LINT DRAWER *MUST BE* CLOSED TO ACTIVATE THE SAFETY SWITCH OTHERWISE THE DRYER WILL NOT START**.

9. Rotate the basket (tumbler/drum) by hand to be sure it moves freely.

10. Check bolts, nuts, screws, terminals, and fittings for security.

11. Check tumbler bearing setscrews to insure they are **ALL** tight.

12. GAS MODELS and STEAM MODELS - check to insure air supply (80 PSI [552 kPa]) is connected to the dryer.

13. STEAM MODELS - check to insure **ALL** steam shutoff valves are open.

14. STEAM MODELS - check steam damper operation.

J. PREOPERATIONAL TESTS

ALL dryers are thoroughly tested and inspected before leaving the factory. However, a preoperational test **should be** performed before the dryer is publicly used. It is possible that adjustments have changed in transit or due to marginal location (installation) conditions.

1. Turn on electric power to the dryer.

2. Make sure the main door is closed and the lint drawer is securely in place.

3. Refer to the Operating Instructions for starting your particular model dryer.

4. Check to insure that the basket (tumbler) starts in the clockwise (CW) direction. Additionally, check the direction of the blower motor impellor (fan) to insure that the impellor (fan) rotates in the clockwise (CW) direction as viewed from the front. If it is, the phasing is correct. If the phasing is incorrect, reverse two (2) of the leads at L1, L2, or L3 of the power supply connections made to the dryer.

5. System Controls Operational Test --- to start the dryer...

   a. Microprocessor controller (computer) controls

      1) Display will read "REAdY."

      2) Press the "E" (preprogrammed) cycle key in the touch pad of the keyboard.

      3) Light emitting diode (L.E.D.) display will quickly read "Drying Manual Cycle" "30 Min Remain" (unless special programs requested).

      4) Review the Preprogrammed Cycle Parameters (programs) to ensure they match the set temperatures needed to process the types of materials that is dried. Press "START/ENTER" and the desired preset cycle. The microprocessor controller (computer) will display the entire cycle configuration before "REAdY."

      5) Dryer will now start and the L.E.D. display will read (dry mode for 30 minutes) and count down in minutes.

NOTE: The dryer can be stopped at any time by opening the main door or by pressing the "STOP" [O] key. To restart the dryer, press the "START" [I] key or preprogrammed cycle key (i.e., "E").

NOTE: Pressing touch pad key "A," "B," "C," "D," and "F" will also start the dryer. The six (6) preprogrammed drying cycles ("A-F") have been stored in the microprocessor controller (computer's) memory. Refer to the computer programming manual supplied with the dryer for these preprogrammed cycles.

IMPORTANT: The fan (impellor/blower) shaft rotation **must be** verified by removing the left side access panel. When looking at the fan (impellor/blower) shaft assembly, the rotation ***should be*** in a counterclockwise (CCW) direction.

6. Heat Circuit Operational Test

   a. Gas Models

      1) When the dryer is first started (during initial start-up), the burner has a tendency not to ignite on the first attempt. This is because the gas supply piping is filled with air, so it may take a few minutes for this air to be purged from the lines.

      2) The dryer is equipped with a Hot Surface Ignition (HSI) Module. This device reacts in a specific sequence. The first response from the control would be to engage the ignitor. 4-seconds into the attempt for ignition the gas valve is engaged. Both the ignitor and the gas valve will remain on for the next 7-seconds. If ignition is unsuccessful, the controlling microprocessor thermostat will attempt a retry 1 minute after. If the attempt is still unsuccessful, one (1) more retry is attempted 1 minute later.

NOTE: During the purging period, check to be sure that **ALL** gas shutoff valves are open.

      3) Once ignition is established, a gas pressure test **should be** taken at the gas valve pressure tap of each dryer to assure that the water column (W.C.) pressure is correct and consistent.

NOTE: Water column pressure requirements (measured at the gas valve pressure tap)...

Natural Gas ---------- 3.5 W.C. (8.7 mb).
Liquid Propane (L.P.) Gas ---------- 10.5 W.C. (26.1 mb).

IMPORTANT: There is no regulator provided in a L.P. dryer. The water column pressure ***must be*** regulated at the source (L.P. tank) or an external regulator ***must be*** added to each dryer.

   b. Steam Models

      1) Check to insure that the steam damper is functioning properly.

7. Make a complete operational check of **ALL** safety-related circuits (i.e., lint drawer switch and sail switch on gas models).

8. A reversing basket (tumbler) **should never be** operated with less than a 100 pound (45.35 kg) load (dry weight). The size of the load will affect the coast-down and dwell (stop) times. The basket (tumbler) must come to a complete stop before starting in opposite direction. For microprocessor controller (computer) models, with the automatic (mode) cycle only, the Spin Time and Stop Time are not adjustable. The Spin Time and Stop Time have been preprogrammed into the microprocessor controller (computer) for 120-seconds spin time and a 5-second dwell (stop) time.

BASKET COATING

The basket (tumbler) is treated with a protective coating. We suggest dampening old garments or cloth material with a solution of water and nonflammable mild detergent and tumbling them in the basket (tumbler) to remove this coating.

9. Each dryer **should be** operated through one (1) complete cycle to assure that no further adjustments are necessary and that **ALL** components are functioning properly.

10. Programs/selections (for microprocessor controller [computer] models Only):

    a. Each computer has been preprogrammed by the factory with the most commonly used parameter (program) selections. If computer program changes are required, refer to the computer programming manual which was shipped with the dryer.

K. SHUT DOWN INSTRUCTIONS

If the dryer is to be shut down (taken out of service) for a period of time, the following **must be** performed:

1. Discontinue power to the dryer either at the external disconnect switch or the circuit breaker.

2. Discontinue the heat supply:

    a. ***GAS MODELS*** **... discontinue the gas supply.**

        1) **SHUT OFF external gas supply shutoff valve**.

        2) **SHUT OFF internal gas supply shutoff valve located in the gas valve burner area.**

    b. ***STEAM MODELS*** **... discontinue the steam supply.**

        1) **SHUT OFF external (location furnished) shutoff valve.**

        2) **SHUT OFF internal steam valves in the supply lines and the return lines**.

L. COMPRESSED AIR REQUIREMENTS

The model ML-145 dryer requires an external supply of compressed air of 2.5 cfm at 80 PSI (0.07 cmm at 552 kPa). For steam models, compressed air is necessary for the air operated steam damper. On both the steam model as well as the gas model, compressed air is necessary/required for blower air jet operation...to clean lint from the impellor/fan (squirrel cage).

1. Air Requirements

COMPRESSED AIR SUPPLY	AIR PRESSURE	
Normal	80 PSI	**552 kPa**
Minimum Supply	70 PSI	**483 kPa**
Maximum Supply	90 PSI	**621 kPa**

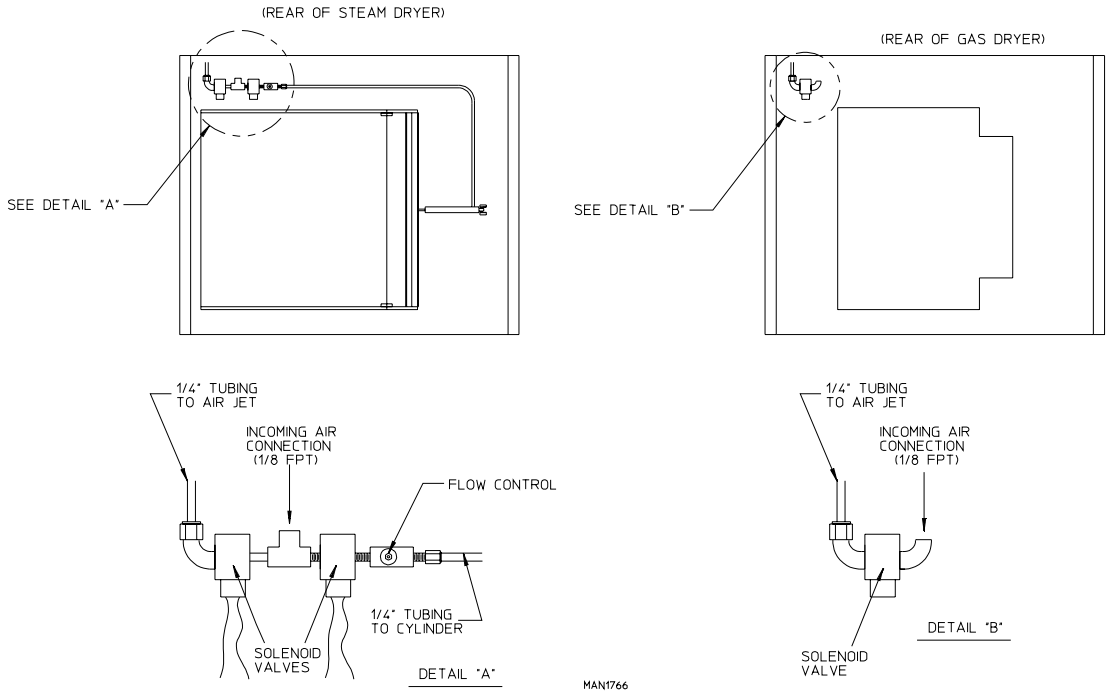
Shaded areas are stated in metric equivalents

2. Air Regulation

   a. No air regulation or filtration is provided with the dryer. External regulation/filtration of 80 PSI (552 kPa) **must be** provided. It is suggested that a regulator/filter gauge arrangement be added to the compressed air line just before the dryer connection. This is necessary to insure that correct and clean air pressure is achieved.

3. Air Connection

   a. Air connection to this system is an 1/8-inch F.P.T. (female pipe thread) as per the **illustration below**.



SECTION IV

SERVICE/PARTS INFORMATION

A. SERVICE

1. Service **must be** performed by a qualified trained technician, service agency, or gas supplier. If service is required, contact the reseller from whom the **ADC** equipment was purchased. If the reseller **cannot** be contacted or is unknown, contact the **ADC** Service Department for a reseller in your area.

NOTE: When contacting the **ADC** Service Department, be sure to give them the correct **model number** and **serial number** so that your inquiry is handled in an expeditious manner.

B. PARTS

1. Replacement parts **should be** purchased from the reseller from whom the **ADC** equipment was purchased. If the reseller **cannot** be contacted or is unknown, contact the **ADC** Parts Department for a reseller in your area. Parts may also be purchased directly from the factory by calling the **ADC** Parts Department at (508) 678-9000 or you may FAX in your order at (508) 678-9447.

NOTE: When ordering replacement parts from the **ADC** reseller or the **ADC** factory be sure to give them the correct **model number** and **serial number** so that your parts order can be processed in an expeditious manner.

SECTION V
WARRANTY INFORMATION

A. RETURNING WARRANTY CARD(S)

1. Before any dryer leaves the **ADC** factory test area, a warranty card is placed on the back side of the main door glass. These warranty cards are intended to serve the customer where we record the individual installation date and warranty information to better serve you should you file a warranty claim.

    a. If a warranty card did not come with your dryer, contact the **ADC** Warranty Department or **ADC** Service Department at (508) 678-9000.

B. WARRANTY

For a copy of the **ADC** commercial warranty covering your particular dryer(s), contact the **ADC** reseller from whom you purchased the equipment and request a dryer warranty form. If the reseller **cannot** be contacted or is unknown, warranty information can be obtained from the factory by contacting the **ADC** Warranty Department at (508) 678-9000.

NOTE: Whenever contacting the **ADC** factory for warranty or warranty information, be sure to have the dryer's **model number** and **serial number** available so that your inquiry can be handled in an expeditious manner.

C. RETURNING WARRANTY PART(S)

ALL dryer parts warranty claims or inquires **should be** addressed to the **ADC** Warranty Parts Department. To expedite processing, the following procedures **must be** followed:

1. No parts are to be returned to **ADC** without prior written authorization ("Return Material Authorization" [R.M.A.]) from the factory.

NOTE: A R.M.A. is valid for only sixty (60) days from date of issue.

    a. The R.M.A. issued by the factory, as well as any other correspondence pertaining to the returned part(s), **must be** included inside the package with the failed merchandise.

2. Each part **must be** tagged with the following information:

   a. **Model number** and **serial number** of the dryer from which part was removed.

   b. Nature of failure (be specific).

   c. Date of dryer installation.

   d. Date of part failure.

   e. Specify whether the part(s) being returned is for a replacement, a credit, or a refund.

NOTE: If a part is marked for a credit or a refund, the invoice number covering the purchase of the replacement part ***must be*** provided.

NOTE: Warranty tags (**ADC** Part No. 450064) are available at "no charge" from **ADC** upon request.

3. The company returning the part(s) must clearly note the complete company name and address on the outside of the package.

4. **ALL** returns **must be** properly packaged to insure that they are not damaged in transit. *Damage claims are the responsibility of the shipper.*

IMPORTANT: No replacements, credits, or refunds **will be** issued for merchandise damaged in transit.

5. **ALL** returns **should be** shipped to the **ADC** factory in such a manner that they are insured and a proof of delivery can be obtained by the sender.

6. **Shipping charges are not the responsibility of ADC. ALL returns should be "prepaid" to the factory. Any "C.O.D." or "COLLECT" returns will not be accepted.**

IMPORTANT: No replacements, credits, or refunds **will be** issued if the claim **cannot** be processed due to insufficient information. The party filing the claim **will be** notified in writing, either by "FAX" or "CERTIFIED MAIL - Return Receipt Requested," as to the information necessary to process claim. If reply **is not** received by the **ADC** Warranty Department within thirty (30) days from the FAX/letter date, then no replacement, credit, or refund **will be** issued, and the merchandise **will be discarded**.

SECTION VI
ROUTINE MAINTENANCE

A. CLEANING

A program and/or schedule **should be** established for periodic inspection, cleaning, and removal of lint from various areas of the dryer, as well as throughout the duct work system. The frequency of cleaning can best be determined from experience at each location. Maximum operating efficiency is dependent upon proper air circulation. The accumulation of lint can restrict this airflow. If the guidelines in this section are met, an **ADC** dryer will provide many years of efficient, trouble-free, and most importantly, safe operation.

WARNING: **LINT FROM MOST FABRICS IS HIGHLY COMBUSTIBLE. THE ACCUMULATION OF LINT CAN CREATE A POTENTIAL FIRE HAZARD**.

WARNING: **KEEP DRYER AREA CLEAR and FREE FROM COMBUSTIBLE MATERIALS, GASOLINE, and OTHER FLAMMABLE VAPORS and LIQUIDS**.

NOTE: **REMOVE POWER FROM THE DRYER BEFORE PERFORMING ANY MAINTENANCE IN THE DRYER (cleaning the lint drawers and both steam coil lint screens are the only exceptions)**.

NOTE: Suggested time intervals shown are for average usage which is considered six (6) to eight (8) operational (running) hours per day.

CLEAN LINT FROM LINT DRAWER/SCREEN EVERY THIRD or FOURTH LOAD.

NOTE: The frequency of cleaning the lint screens can best be determined from experience at each location.

WEEKLY

Clean lint accumulation from the lint chamber, thermostat, and microprocessor temperature sensor (sensor bracket) area.

WARNING: **TO AVOID HAZARD OF ELECTRICAL SHOCK, DISCONTINUE ELECTRICAL POWER SUPPLY TO THE DRYER**.

STEAM DRYERS

Clean the steam coil fins. Compressed air and a vacuum cleaner with brush attachment are suggested.

NOTE: ***When cleaning steam coil fins, be careful not to bend the fins.*** If fins are bent, straighten by using a ***fin comb***, which is available from any local air conditioning supply house.

90 DAYS

Regrease the two (2) 1-3/8" bearings that support the impellor (fan/blower) shaft. Use Shell Alvania #2 grease or its equivalent. Impellor (fan/blower) shaft **should be** lubricated.

Check to make sure that the setscrews on the impellor (fan/blower) shaft bearing are tight.

Remove lint from around basket (tumbler), drive motors, and surrounding areas. Remove lint from the gas valve burner area with a dusting brush or vacuum cleaner attachment.

NOTE: To prevent damage, avoid cleaning and/or touching the Hot Surface Ignitor.

Remove lint accumulation from inside the control box and at rear area behind the control box.

6 MONTHS

Inspect and remove lint accumulation in customer furnished exhaust duct work system and from dryer's internal exhaust ducting.

NOTE: THE ACCUMULATION OF LINT IN THE EXHAUST DUCT WORK CAN CREATE A POTENTIAL FIRE HAZARD.

NOTE: ***DO NOT*** OBSTRUCT THE FLOW OF COMBUSTION and VENTILATION AIR. CHECK CUSTOMER FURNISHED BACK DRAFT DAMPERS IN THE EXHAUST DUCT WORK. INSPECT and REMOVE ANY LINT ACCUMULATION WHICH CAN CAUSE THE DAMPER TO BIND or STICK.

NOTE: A back draft damper that is sticking partially closed can result in slow drying and shutdown of the heat circuit safety switches or thermostats.

NOTE: When cleaning the dryer cabinet(s), avoid using harsh abrasives. A product intended for the cleaning of appliances is recommended.

Check **ALL** V-belts for tightness and wear. Retighten, realign, or replace V-belt if required.

NOTE: Replace both belts in matched sets (both belts).

B. ADJUSTMENTS

7 DAYS AFTER INSTALLATION and EVERY 6 MONTHS THEREAFTER

Inspect bolts, nuts, screws, (bearing setscrews), nonpermanent gas connections (i.e., unions, shutoff valves, orifices), and grounding connections. Motor and drive belts **should be** examined. Cracked or seriously frayed belts **should be** replaced. Tighten loose V-belts when necessary. Complete operational check of controls and valves. Complete operational check of **ALL** safety devices (i.e., door switch, lint drawer switch, sail switch, burner, and hi-limit thermostat).

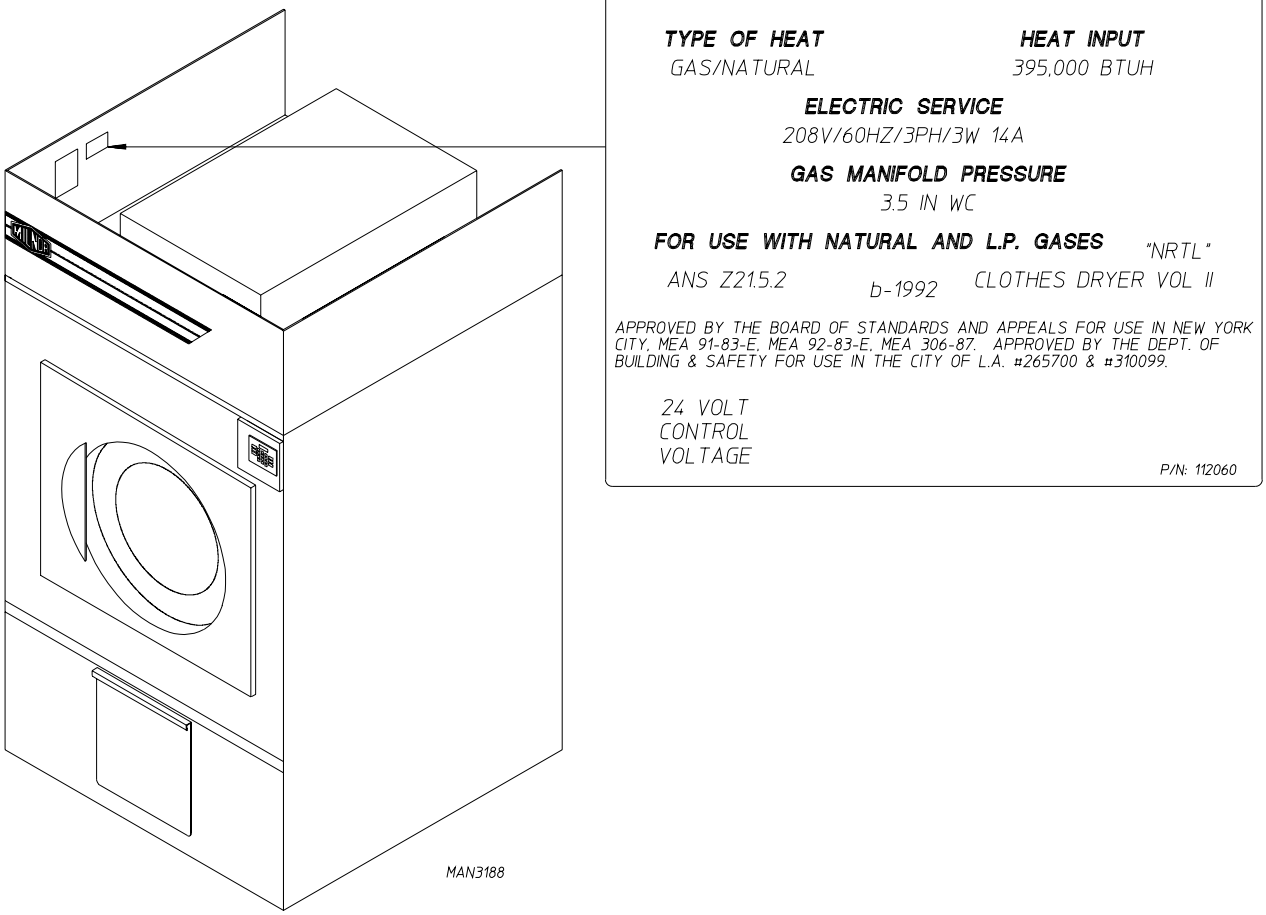
C. LUBRICATION

The motor bearings, the idler bearings, and the tumbler bearings are ***permanently lubricated***. **NO LUBRICATION IS NECESSARY.**

SECTION VII

DATA LABEL LOCATION/INFORMATION

A. DATA LABEL



When contacting **American Dryer Corporation**, certain information is required to insure proper service parts information from **ADC**. This information is on the data label that is located in the left inside front panel (as shown in the **illustration above**). When contacting **ADC** please have the **model number** and the **serial number** readily available.

THE DATA LABEL

1. **MODEL NUMBER**
   The model number is an **ADC** number which describes the size of the dryer and the type of heat (gas, electric, or steam).

2. **SERIAL NUMBER**
   The serial number allows **ADC** to gather information on your particular dryer.

3. **MANUFACTURING CODE NUMBER**
   The manufacturing code number is a number issued by **ADC** which describes **ALL** possible options on your particular model.

4. **TYPE OF HEAT**
   This describes the type of heat for your particular dryer; gas (either natural gas or liquid propane [L.P.]) or steam.

5. **HEAT INPUT** (for GAS DRYERS)
   This describes the heat input in British Thermal Units per Hour (BTUH).

6. **ELECTRIC SERVICE**
   This describes the electric service for your particular model.

7. **GAS MANIFOLD PRESSURE** (for GAS DRYERS)
   This describes the manifold pressure taken at the gas valve tap.

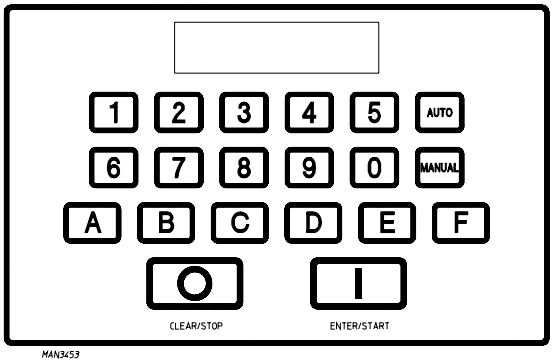
SECTION VIII

PROCEDURE FOR FUNCTIONAL CHECK OF REPLACEMENT COMPONENTS

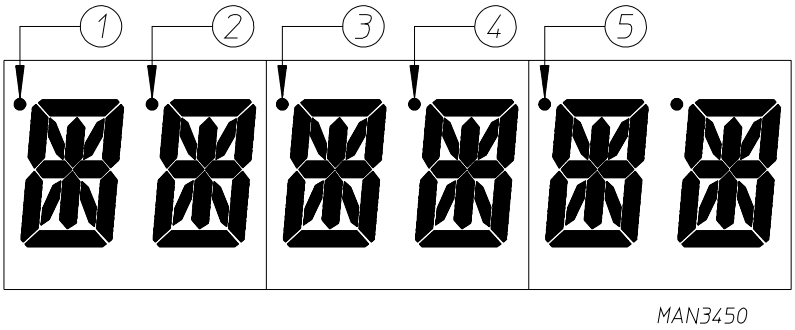
1. Microprocessor Controller (computer) Board

   a. Upon completing installation of the replacement microprocessor controller (computer) board, reestablish power to the dryer.

   b. Start the drying cycle by pressing any of the preset cycles in letters “A-F.”



   c. Verify that the motor(s) and the heat indicator dots, in the microprocessor controller (computer) light emitting diode (L.E.D.) display are on. (Refer to the **illustration below**).



   1) Basket (tumbler) in Forward Mode (clockwise [CW]) Indicator

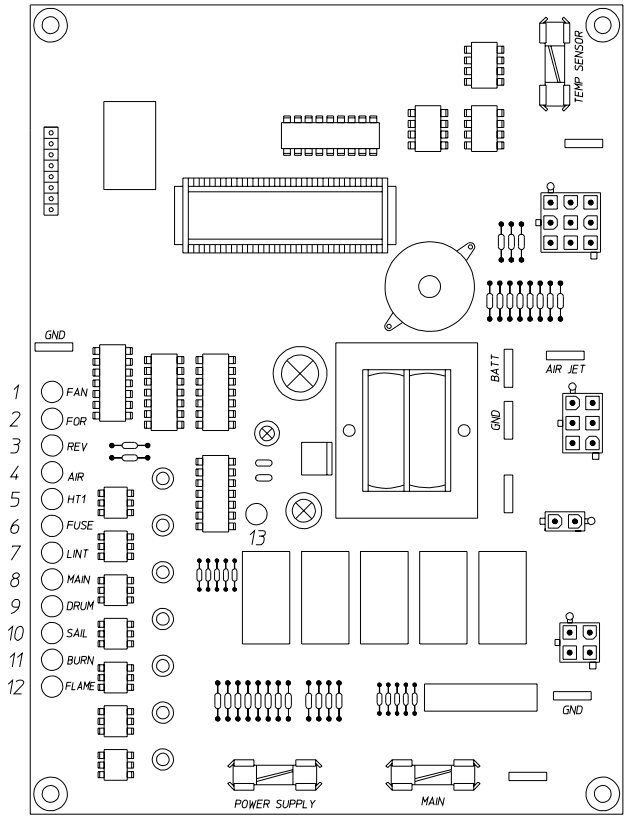
   2) Basket (tumbler) in Reverse Mode (counterclockwise [CCW]) Indicator

   3) Heat On Indicator

   4) On Indicator (dryer is in Operation Mode)

   5) Air Jet Indicator

d. Verify that the motor's heat and door indicator lights on the back side of the microprocessor controller (computer) board are lit. (Refer to the **illustration below**).



1) "FAN" (Blower) light emitting diode (L.E.D.) indicator

2) "FOR" (Forward) output L.E.D. indicator

3) "Rev" (Reverse) output L.E.D. indicator

4) "Air" (Air Jet) output L.E.D. indicator

5) "HT 1" (Heat) output L.E.D. indicator

6) "Fuse" (Main Fuse) input L.E.D. indicator

7) "Lint" (Lint Door) input L.E.D. indicator

8) "Main" (Main Door) input L.E.D. indicator

9) "Drum" (Basket [Tumbler] Hi-Limit) input L.E.D. indicator

10) "Sail" (Sail Switch) input L.E.D. indicator

11) "Burn" (Burner Hi-Limit) input L.E.D. indicator

12) "Flame" (Burner Control Failure) input L.E.D. indicator

13) "Power Supply"

e. Open main door. The dryer ***must stop*** and **ALL** indicator dots of the microprocessor controller (computer) light emitting diode (L.E.D.) display ***must go out***. (Refer to the **bottom illustration** on **page 46**.)

f. Try to restart the dryer with the main door open.

g. The microprocessor controller (computer) board's L.E.D. display ***must read*** "**MAIN dOOR**."

h. Close the main door and restart the dryer.

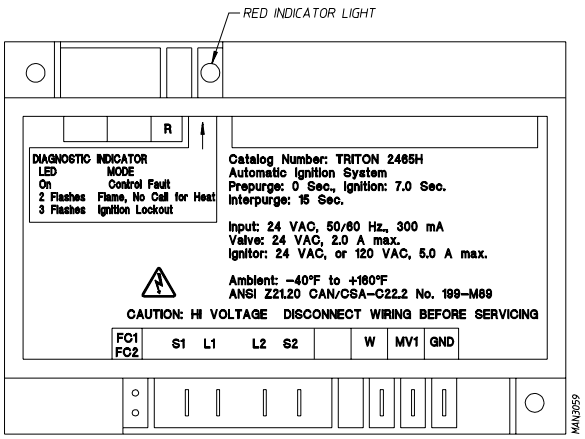
i. Functional check of microprocessor controller (computer) board is complete.

2. Hot Surface Ignition (HSI) System

a. Upon completing installation of the replacement HSI module, reestablish power to the dryer.

b. The HSI module's "red" indicator light will light for up to approximately 5-seconds (self check routine).

   If the HSI module's "red" indicator light stays on or flashes continuously, then the HSI module is wired incorrectly or has failed.



c. Start the drying cycle.

d. The hot surface ignitor will turn on and a few seconds later the gas valve will be energized. After approximately 4-seconds the hot surface ignitor will shut off. ***Ignition (flame) should now be established.***

e. With the burner flame on, remove the flame sensor wire from the S2 terminal of the HSI module. ***The burner flame must shut off immediately.***

f. Stop the drying cycle, with the flame sensor wire still removed, restart the drying cycle.

g. The hot surface ignitor will turn on and after a few seconds later the gas valve will be energized and the hot surface ignitor will shut off. Ignition (flame) **should be** evident for approximately 7-seconds and then shut off.

h. The HSI module will attempt two (2) additional ignition trials after which the HSI module will lockout and the "red" indicator light ***will flash continuously.***

i. Functional check of the HSI module is complete.

   1) Replace the flame sensor wire from the S2 terminal to the HSI module.

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4* 08/03/98-50 **5*** 11/04/98-25 **6**- 08/31/99-25
7- 09/28/00-10 **8*** 10/19/00-25

American Dryer Corp.